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ORIGINAL COMMUNICATIONS.

CONGENITAL CYANOSIS.

Read before the Philadelphia County Medical Society, June 21, 1882,

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PETER M., æt. 11 years, born in Germany, was brought to this country when nine months old. So far as known, his relatives have not suffered from rheumatism or heart-troubles. His father and mother are well, and the remainder of their children are strong and healthy. Two aunts died of consumption, but none of his other relatives are thought to be phthisical.

Peter was apparently well at birth, but when about six months of age, soon after falling from a considerable height, which rendered him unconscious several minutes, his lips were noticed to be dark and his cheeks unnaturally red. Since the accident and the appearance of the cynanosed condition he has been liable to take cold on slight exposure. He has never shown much fondness for play, his movements always being slow. A constant headache (frontal), worse during warm weather, has been complained of since he has been able to locate the seat of pain. His appetite has been rather poor, his bowels irregular, and he has rarely been free from indigestion. When six years old he had whooping-cough, from which he suffered severely.

Dr. Strittmatter's attention was attracted by his blue appearance about the 1st of June of the present year, while extracting a tooth for his little brother at the dispensary of the St. Mary's Hospital. I first saw him with the doctor on June 6, 1882. His temperature was 102°; pulse 124, small and weak; respiration 32. He coughed considerably. His hands and feet were cool and of a dark-purple color. The last joints of the fingers and toes were greatly enlarged (clubbed). The nails were blue, very convex from side to side, and bent forward at the distal ends. The skin covering the enlarged ends of the fingers and toes was purple, smooth, and glistening. The superficial veins seen over the entire surface of the body, giving it a dusky hue, were most distinctly visible in the fingers and palms of the hands, enabling one to trace the smallest of these vessels from the very finger-tips. The pulse was weakest when his hands were elevated above his head. There was no perceptible venous pulsation nor any undue prominence of the carotids. After he had walked about the room a short time, or stood on his feet several minutes, the heart acted more rapidly, and occasionally lost a beat. The cardiac impulse was seen in the fourth and fifth left intercostal spaces, over an area of about two inches' diameter. A pre-systolic thrill was felt near the apex of the heart in the fourth intercostal space. The area of cardiac dulness was greatly increased over both ventricles. When the heart was excited, two murmurs could be heard over the entire chest (front and back), but their seats of intensity were near the apex, the one just preceding the systole being located a little higher than the systolic one.

After the boy had been kept in the recumbent posture several minutes, the heart beat less excitedly, and the area over which the murmurs could be heard was lessened. When the stethoscope was now placed over the second right costal cartilage, a feeble systolic murmur, not transmitted into the carotids, was heard. The aortic second sound was feeble and unattended by a murmur. With the stethoscope over the second left costal cartilage, the systolic murmur was still very feebly heard, and the pulmonic second sound, also unattended by a murmur, was intensified and much louder than that at the aortic orifice. The systolic murmur was lost when listened for near the middle of the left clavicle. Over the third costal cartilages, and over the sternum on a line with these cartilages, a presystolic murmur, followed by one occurring with the systole of the heart, was heard. Both murmurs, when the heart was acting leisurely, as well as when the organ was excited, were loudest at or near the apex. The boundaries of the area over which the pre-systolic murmur could be heard were: a line drawn from the third right costo-sternal articulation to the right nipple; from this point to the base of the ensiform cartilage of the sternum; directly to the left from this portion of the sternum to a perpendicular line from the anterior border of the left axilla; thence to the third left costo-sternal articulation. The area of the systolic murmur was a little greater in every direction, and this murmur was also heard in the left axilla, and posteriorly at the lower angle of the left scapula, and between this shoulder-blade and the spine, opposite the spinous process of the former.

Some bronchial trouble was detected. He was ordered a fever-mixture, etc.

He improved, and one week later his temperature was nearly normal.

14th.—He felt better, but the cardiac dulness, now pyramidal in shape, was somewhat increased, indicating pericardial effusion.

19th.—Dulness was less marked. The urine had been twice examined, but no albumen detected. No change in the cardiac murmurs.

Temperatures.—Of mouth, 100.2°; right axilla, 99.8°; left axilla, 99.4°. Of chest: anterior and lateral surfaces, first intercostal space, R. 100.3°, L. 99.3°; fifth intercostal space, R. 99°, L. 99.1°; seventh intercostal

space, axillary region, R. 99°, L. 99°. Posterior surface, between spine and scapulæ, opposite spines of the latter, R. 99°, L. 100°. Signs of slight congestion of the apex of the right lung anteriorly, and of the left lung posteriorly, were detected.

Remarks.—Congenital cyanosis is interesting at this age, because of the near approach of the trying ordeal of puberty, to which most who have not died in early childhood usually succumb. The physical signs of cardiac malformations are interesting at all ages, on account of the great difficulty in making an accurate diagnosis. Besides, an autopsy reveals the true condition.

In this affection there is a tendency to an increase of the interstitial tissue of the viscera, and kidney-trouble may be expected in a fair proportion of cases, although none has, as yet, been detected in this boy.*

Flint and others state that about one-sixth of all suffering from congenital cyanosis, who live to the age of twelve years, die of consumption. It may be that the rise in temperature, and the congestion of the apices of both lungs, in the present instance, are associated with the deposition of tubercle.

Contraction at the pulmonic orifice, and deficient septa between the right and left cavities of the heart, are the most frequent cardiac malformations found in connection with congenital cyanosis in persons who have reached the age of ten or twelve years. Numerous malformations of the heart are occasionally met with. Some of these give rise to no symptoms, and others are so serious that an extra-uterine existance of more than a few days or weeks is impossible. Direct communication of the cavities of the right side of the heart with those of the left is usually associated with stenosis at the pulmonic orifice, the former condition being a little more frequently met with than the latter. Statistics warrant us in saying that in ten cases of congenital cyanosis, nine will be associated with imperfect septa of the heart; and in seven cases of the same character, obstruction at the pulmonic orifice will be present in six.†

All authorities are agreed that cardiac malformations of sufficient gravity to give rise to well-marked symptoms are easy of diagnosis; and I believe that all are equally agreed that the problem of determining the particular character of the malformation is by no means an easy one. By some this is said to be, at times, almost impossible.

The physical signs of malformation (constriction) at the pulmonic orifice, as given by Flint, may be summed up as follows: an enlarged right ventricle, and a systolic murmur, with its seat of intensity at the base of the heart on the left side of the sternum, frequently limited to this situation, never propagated into the carotids, and at times associated with a diastolic murmur referable to the pulmonic orifice.‡ With reference to the physical signs of deficient septa of the heart, I quote from the same author: "Communication of the two ventricles through an aperture in the septum gives rise to a systolic murmur. A murmur thus produced will not be propagated either along the course of the aorta or pulmonary artery, and will have its maximum at or near the base of the heart. The passage of blood through an open foramen ovale probably rarely, if ever, gives rise to a murmur."

"In a case of imperfection of the interventricular septum, the result of congenital deficiency of the operculum at the foramen ovale, Dr. Mayne found a loud *bruit de soufflet* accompanying the first sound, and localized at the sternal end of the left fourth costal cartilage." §

In pulmonary stenosis, Dr. Peacock‖ says, "A loud systolic murmur will be heard in the præcordial region, and most intensely at the level of the nipple, and between that body and the sternum. It will be audible very distinctly in the course of the pulmonary artery, or from the base of the heart towards the middle of the left clavicle, and less distinctly in the course of the aorta, or at the upper part and right side of the sternum." He thinks the regurgitant current is generally too slight to generate a murmur, and adds, "The impulse of the heart is usually powerful, and frequently a distinct purring tremor may be felt over the situation of the pulmonic orifice." The same writer says, "An aperture in the septum of the

* The urine has been examined almost daily since exhibiting the patient before the Society, albumen in a greater or less quantity being detected at the majority of the examinations. July 5, the urine contained twenty-five per cent. of albumen, and the microscope revealed a few hyaline and granular casts.

† Sansom's Physical Diagnosis of the Heart.

‡ Flint on Disease of the Heart, 2d ed.

§ The Heart and its Diseases, by Fothergill. ‖ *Ibid.*

ventricles, without other malformations, would probably be attended by a murmur, caused by the flow of blood through the abnormal opening from the left ventricle into the right ventricle or auricle. The detection, therefore, of a systolic murmur at the base of the heart without signs of obstruction at the aortic or pulmonic orifice might lead to a suspicion that such a communication existed. This surmise would be strengthened if the murmur were not propagated in the course of the pulmonary artery or aorta."

Dr. Fothergill writes,* "My own observations extend no further on this matter than that where there are cyanosis and other evidences of cardiac malformation present, at times a murmur can be heard which is basal in locality, and systolic in time, not very loud in character, and which does not correspond with any of the systolic murmurs with which I am familiar."

"Dr. Markham actually maintains he has heard a loud murmur thus generated [through the foramen ovale]. In a slightly cyanosed child, aged four years, a rough systolic murmur, therefore coincident with the diastole of the auricles, audible about the heart's base and the left infra-clavicular region, indistinct below the nipple, scarcely to be caught at the heart's apex, loudly defined at both sides of the upper half of the interscapular space, seemed inexplicable, post mortem, except as the result of the struggle of the blood at an open foramen ovale. The communication from the right to the left auricle was sufficiently large to admit the point of the little finger; and there was no constriction of the pulmonary artery, nor any other condition of the heart, conceivably explanatory of the murmur."† Dr. Fox thinks the murmur ought to have been presystolic, and Dr. Walshe, agreeing with Fox, suggests that it might have been pre-systolic, and yet mistaken for a systolic one.

In carefully considering what has been written in regard to the physical signs of particular malformations of the heart, one is impressed with the fact that those who have the most thoroughly investigated the whole subject have the least confidence in their ability to make a nice diagnosis. If this is the case in uncomplicated congenital malformations of the heart, no one can doubt that the difficulty is increased when the diseases of the heart incident to extra-uterine existence add other permanent lesions, which may give rise to endocardial murmurs, or modify those previously existing.

In the present case the murmurs in the heart could be accounted for by a recent attack of endocarditis, expending its force at the mitral orifice, but the cyanosed condition leads us to suspect a malformation, itself giving rise to the murmurs heard. In the light of the recent febrile condition, which developed and progressed some time while he was not under the observation of any physician, and in view of the fact that a pericardial effusion has taken place since he was first seen at the hospital, it is necessary that one should be guarded in an opinion in regard to the cause of the double murmur.‡ Excluding the idea that a recent endocarditis has developed the murmurs, what, then, would be the probable malformation that would give rise to the physical signs presented by this boy? Although there may be constriction at the pulmonic orifice, this is not the cause of the murmurs. It is found, as already stated, that the systolic murmur is scarcely audible over the second left costal cartilage, and that it is entirely lost when listened for in the direction of the pulmonary artery and near the middle of the left clavicle. Further, the sound ordinarily produced by the closure of the semilunar valves at the pulmonic orifice, in constriction faint or replaced by a diastolic murmur, is here greatly intensified. The right ventricle is apparently but little enlarged.

If imperfect septa of the heart are the cause of the murmurs, the exceeding infrequency of audible physical signs produced by directly communicating auricles points to the septum between the ventricles as the seat of the pathological condition, although theoretically a patulous foramen ovale best accounts for the presystolic murmur.

THE American Pharmaceutical Association will hold its meeting this year at Niagara Falls, commencing Tuesday, September 12, and adjourning on Friday or Saturday.

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* *Op. cit.*

† Walshe's Treatise on the Diseases of the Heart, etc., 3d ed.

‡ Since exhibiting the patient before the Society, I have learned that he was carefully examined by a very competent observer some years ago, and that no cardiac murmur existed at that time, although cyanosis was marked.

ON SOME UNFORTUNATE RESULTS OF VACCINATION, ARISING PRINCIPALLY FROM CARELESSNESS IN COLLECTING AND PRESERVING VACCINE VIRUS.

Read before the Philadelphia County Medical Society, June 28, 1882,

BY W. M. WELCH, M.D.,
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WHEN vaccination is performed with strictly pure vaccine lymph, there are very few accidents or serious results that are at all likely to follow. Of course the inflammatory process may be aggravated by any injury of the vesicle, or by careless or reckless exposure of the vaccinated arm to long-continued cold and wet. In certain peculiarities of constitution, latent cutaneous diseases are sometimes brought to the surface; and in children having a very strongly marked scrofulous diathesis, enlargement, inflammation, and sometimes suppuration of the cervical or axillary glands may occur.

It is unnecessary to say very much in regard to the transmission of scrofula by vaccination, for the medical profession has never entertained the opinion that this affection can be communicated in this way. The complaints of parents that cutaneous diseases of this nature have been communicated to their children by impure virus are numerous, and arise chiefly, as Marson says, from their unwillingness "to believe that there is anything wrong with their offspring; and when other diseases follow, vaccination gets blame for what is really and truly due to other causes." Seaton, who has carefully inquired into this subject, and personally examined very many such alleged cases, writes, "I have never yet in a single instance found that the child from whom the lymph was taken was suffering from the disease which it was said to have imparted." Marson, after an experience of forty thousand vaccinations, West, Sir William Jenner, and many others of very large experience, bear testimony very emphatically to the same doctrine. On the contrary, it has been shown that vaccination instead of increasing really diminishes the tendency to scrofula, and also to pulmonary consumption.

The transmission of syphilis by vaccination is perhaps the accident most to be dreaded. That this is a real danger—one which at different times has been both very much under- and over-estimated—I firmly believe. But, fortunately, the danger is not very considerable, even by the use of humanized virus, and can be almost wholly prevented by care. The very first step, however, towards avoiding the danger is to recognize the fact that it exists. To any one having doubts of the possibility of communicating syphilis by vaccination I would recommend, if not a careful study of the whole literature of the subject, at least a careful perusal of Mr. Hutchinson's very valuable and conclusive report, published in the fifty-fourth volume of the Medico-Chirurgical Transactions.

While it must be admitted that the two diseases have been occasionally transmitted to the same person at the same time, yet it is also a fact that the experiment of using variolous lymph from syphilitic subjects was made during the time when inoculation was in vogue, and has since been repeated with vaccine lymph, and has failed in both instances to communicate syphilis. It is therefore quite evident that the danger of inoculating syphilis is very small, and cannot be used as a valid argument against vaccination. Certainly the incalculable benefits of the latter much more than counterbalance the danger of the former, even though we were obliged to depend upon humanized virus. But, fortunately, the introduction of animal lymph, which is free from all possibility of syphilitic contamination, has had the effect of relieving the fears of the people, and enables us to answer fully and conclusively the only argument ever advanced by the anti-vaccinists that is at all worth considering.

Erysipelas has been known to follow vaccination under peculiar atmospheric conditions, or in persons having a strong predisposition to that disease, just as it sometimes follows the slightest abrasion of the skin; but its occurrence is more frequently the result of bad virus, or of gross carelessness or inexcusable ignorance on the part of the vaccinator or the propagator of the virus. A very striking exemplification of this fact was brought to light a number of years ago before a coroner's inquest, at Westford, Massachusetts, on three victims of malpractice of perhaps as shocking a form as could well be perpetrated in the name of vaccination. According to Dr. Martin, who was summoned to the inquest as an expert, the people of Westford became alarmed at the presence of one or

more cases of smallpox, and the selectmen of the town appointed two physicians as public vaccinators. The agent of the selectmen purchased from the city physician of Boston, for seven dollars, a quantity of vaccine virus taken from the arms of children. The virus was partly on quill slips, or "points," and partly in the form of crusts. It appears that it was entirely inert, as one of the physicians had used all his share without inducing vaccinia, or any other effect. The other physician, having three of the crusts for his share, had used one-half of one of them with the same negative results. But, probably before he had learned that the virus was inert, it occurred to him that he was using up his share too quickly, and at that rapid rate the whole town could not be vaccinated at the extravagant outlay of seven dollars. He therefore determined to adopt the method taught him by his preceptor, which was to break up the crusts, put the pieces into a bottle with a little snow-water (snow-water was insisted upon, because of its supposed purity), and whenever he wished to perform a "vaccination" he would shake up the bottle, dip his lancet in the mixture, and "vaccinate." He continued in this way for probably ten or eleven days, "vaccinating" during this time a fair share of the people, without any effect, either good or bad; but on the eleventh or twelfth day, when the bottle was opened, notwithstanding the "purity" of the snow-water, there was emitted a stench which in a moment pervaded the whole room. Still, however, he continued to use the putrescent mixture, vaccinating on that day twenty-five people, old and young. The result can readily be imagined. Sores resembling dissection-wounds, inflamed and erysipelatous arms, diffuse abscesses and systemic poisoning, at once ensued in more than half the cases. Three of the number least prepared to resist such blood-poisoning died very soon, with terrible symptoms and suffering, and some dozen others were only saved by most prompt and energetic treatment, and even some of these are said to have been left with maimed and useless arms. Of the remainder, only a very few were fortunate enough to escape quite free from injury.

A large number of medical experts were summoned as witnesses at the inquest, and very many of them could see nothing wrong in the virus or the method of using it, but tried to maintain that these terrible results arose from a peculiarly bad state of constitution of those vaccinated. Others thought that there was a very decided malignity in the virus employed, but could see nothing whatever reflecting on the method of using it. The latter explanation is certainly too absurd to need comment; and to accept the former would be equivalent to saying "that *all* the bad, broken constitutions in Westford were vaccinated, by a most strange coincidence, on one day, while hundreds vaccinated during the previous eleven or twelve days, with the very same virus, presented no symptoms at all." This is simply preposterous. The truth was expressed in Dr. Martin's testimony, which was to the effect that these terrible results were clearly to be ascribed to the introduction into the system of a most virulent septic poison in the form of decomposing animal matter. He cited the world-famous experiments of Orfila, in which the lean of beef and mutton was cut up, mixed with water, and with this mixture animals were inoculated from day to day. He explained how this was continued for several days without any result whatever, but after a time, on a day perhaps corresponding to that on which the unfortunate results were set up at Westford, the inoculations were followed by precisely similar symptoms in the animals, and, as no treatment was used, death occurred in almost every instance. At length, after a large number of witnesses had been called, and had expressed great contrariety of opinions, in Dr. Martin's words, "The verdict of the jury was that the three Westford victims came to their death by the use of vaccine virus, originally bad, and rendered worse by an improper mode of employing it. It was, on the whole, a fair verdict, but the only 'badness' of the virus was its utter want of efficacy. The verdict should have been that animal matter, purporting to be vaccine virus, being used in a monstrously improper manner, had been the vehicle by which a most destructive and intense poison had been introduced into the circulation."

Unfortunate results quite similar to those just narrated occurred some years ago in the experience of one of the vaccine physicians of this city,—the only difference being that in this instance no deaths were known to have occurred. The facts may be stated as follows. During the month of June,

when the physician was performing from twenty to thirty vaccinations daily, he came in possession of some crusts (humanized virus was then used altogether) which he found to be particularly reliable, and very certain to "take" in every case,—a matter of considerable importance to a vaccine physician, for he is paid only for the successful cases. He was therefore desirous of making this virus reach as far as possible, and so he was very careful that none of it should be wasted.

The virus was prepared for use in the ordinary way, by pulverizing it between two pieces of glass of the size and shape of microscopic slides, and by adding sufficient water to reduce it to the consistence of cream. From this vaccinations were performed during the day, and whatever of the material remained unused by evening was allowed to remain on the glasses, which were placed together, rolled up in a piece of paper, and carried in the vest-pocket. When commencing operations the next day the material on the glasses, frequently still in a moist condition, was scraped together, a fragment of crust added, and the whole prepared as before. This practice was continued for several successive days, when at length, after, doubtless, very decided decomposition of a portion of the vaccine material had taken place, there were developed in a large number of the children "vaccinated" horribly sore arms, erysipelas, and other symptoms of septic poisoning. The parents of these suffering children, many of whom belonged to the lowest grade of citizens, were very naturally and justly enraged, and had they known the residence of the physician who was guilty of causing the terrible suffering of their children, possibly in this instance the coroner's inquest would have been held on the body of the *vaccinator*, instead of on the bodies of the vaccinees.

It should also be observed that a number of medical men familiar with all the circumstances connected with these unfortunate results last cited were quite ready to account for them in some other way, which, if true, would relieve the physician from all blame; but the physician himself was fully convinced that the results were clearly attributable to his own carelessness.

The evils of careless vaccination do not belong alone to our day and generation. Going back in the history of vaccination in this country to the days of Waterhouse, the Jenner of America, one is struck with the gross carelessness and unpardonable ignorance which existed at that time, notwithstanding the precepts of Jenner, who was still living, and the repeated warnings and cautions of Waterhouse. The latter writes,* "But these repeated cautions were disregarded by the young and sanguine practitioner, who saw nothing but regular cases, little trouble, and great profits. If those whom it most concerns will not attend to what is written expressly for their information, they must alone be answerable for the consequences. There are cases where ignorance is converted into a crime."

As showing some of the evil consequences which resulted from ideas of extreme simplicity regarding the new inoculation entertained by some professional gentlemen, who even encouraged women and children to inoculate each other, the same writer says, "During this period—viz., the autumn of 1800—a singular traffic was carried on in the article of *kine-pock matter*, by persons not in the least connected with the medical profession,—such as stage-drivers, peddlers, and in one instance the sexton of a church. I have known the shirt-sleeve of a patient stiff with the purulent discharge from a foul ulcer, made so by unskilful management, and full three weeks after vaccination, and in which there could have been none of the specific virus,—I have known this cut up into small strips and sold about the country as genuine kine-pock matter, coming directly from me. Several hundred people were inoculated with this caustic morbid poison, which produced great inflammation, sickness, fever, and in several cases *eruptions*, with a greater disturbance of the system than what occurs in the true disease. It is worthy of remark that I could not influence these people to believe that they had *not* passed through the true disease, and that they were *not* secure from the smallpox. So true it is that a man need not despair of making the common people believe anything *but* TRUTH! That vagrant quacks should stroll about the country inoculating for half a dollar a head, and some for less, is not quite so surprising as that they should, in such a country as ours, find people weak enough

* Waterhouse, Progress of the New Inoculation in America.

to receive it from such hands! This imprudence ought not, however, to be attributed to the common people alone. Many young practitioners in country villages come in for a share of it. Not a few first inoculated themselves, and then others, without having read more than the newspaper publications, and some not even those, and were looking out for eruptions and foretelling appearances and symptoms that are never attached to the disease; and if any very disagreeable occurrences arose in the course of this imprudent practice, the odium reverted to me."

Waterhouse also describes a terrible catastrophe which occurred at Marblehead, Massachusetts, in the nature of a variolous epidemic, the result of a most careless and reckless use of virus taken from a vaccinifer whose vaccinia was complicated with variolous pustules. As a result of this careless selection of virus the citizens of the town were not only afflicted, but enraged,—"afflicted because those near and dear to them were in the grasp of the destroyer, enraged because the professional *brethren* of Waterhouse had informed them that their affliction was but a legitimate result of the new-fangled inoculation which Waterhouse had so ardently taught."* Notwithstanding the embittered feeling against him, Waterhouse visited the afflicted people, thoroughly investigated everything connected with the unfortunate circumstance, and by his clear and accurate explanation so fully convinced the people that the disaster was not the result of true vaccination as he taught it, but rather the result of carelessness or ignorance on the part of the vaccinator, that they, it is said, accompanied him homeward with thanks and honor, and cordially invited him to visit their town again.

The result of all this want of care in vaccination, and of an imperfect knowledge as to the proper time of collecting and the best method of preserving the vaccine lymph, was such extreme deterioration of the virus that it lost its power of inducing true vaccinia in less than a year from the time it was first introduced into the country. Waterhouse himself was for a while at a loss to account for this rapid and very general deterioration of the virus. At first he thought it was because the virus became milder as it receded from the cow; but this explanation would not hold good, for instead of being milder its action was often very much more severe. Various explanations occurred to him, but none of them were satisfactory. In his perplexity he writes, "But endless are the doubts, whims, and fears while wandering through a perplexed path.

"At this gloomy period of the business I wrote to my correspondents in England for a fresh supply of the vaccine virus, and gave out that the present season was less favorable to the inoculation than the spring. I gave Dr. Jenner a minute history of the whole transaction, and begged him to explain this *deterioration*, as I conceived, of the virus; for I wish not to conceal my own perplexity at this period. This worthy man answered that he had heard of our disasters, and that in his anxiety he had longed for the powers that a mortal ought not to aspire at,—nothing less than a *speaking-trumpet* that would carry these words on the rapid wings of the wind across the wide ocean that divides us: '*Take the virus before the efflorescence appears.*'"

Along with this advice Waterhouse received from Jenner, Lettsom, and others, of England, a "second importation" of virus, which he promptly used, with the happiest result. The difference between the typical vaccinia induced by this virus and the spurious disease produced by the old, improperly-collected and badly-preserved virus was very striking. On this point Waterhouse says, "With more information and a fresh supply of active virus, I recommenced my inoculations in March, 1801, and rejoiced to find the distemper possessing very genuine characteristics. It proceeded like my first cases in my own family, slowly, mildly, and pleasantly. I now reinoculated all the doubtful cases within my reach, and several of my patients expressed surprise that the distemper, which I now pronounced the *genuine* one, was so much milder, both as it regarded the sore arm and the constitutional symptoms, than the disease they underwent the autumn before, which I had pronounced *spurious*. But so it was. All those cases where there were violent inflammation, deep-seated ulceration, eruptions, and heavy febrile symptoms, were not the true kine-pock, but a malady generated by an highly acrid, putrid matter; or, in one word, poisonous matter, taken

* Jefferson as a Vaccinator, by Henry A. Martin, M.D., North Carolina Medical Journal, January, 1881.

from under a scab, or from an open ulcer, long after the specific virus was annihilated."

Such, then, were some of the innumerable annoyances and disasters which followed the careless use of vaccine virus in the earliest history of vaccination. It was this carelessness on the part of vaccinators that led Jenner to repeat over and over again, with much ability and eloquence, the necessity of observing certain care in collecting the virus. Departure from Jenner's "Golden Rule" has ever been the fertile source of an incalculable amount of evil. There is good reason to believe that most, if not all, of the bad results from bovine virus, now so generally complained of throughout the country, are due either to the virus having been collected at the improper time, or to the use of crusts, or some vaccination compound made from them, originally bad, and made worse by age. On this subject, it is elsewhere said,* "The frequent occurrence of severe inflammation, ulceration, and even erysipelas, at the seat of insertion of bovine virus, clearly indicates that much of the virus in use has not been propagated with sufficient care and skill, for such results are not produced by pure animal lymph. . . . In times of extraordinary demand for vaccine virus, such as we have just experienced, it is altogether probable that ignorant and unprincipled producers, who follow the specialty as a mere trade, make use of animals which will yield the greatest possible quantity of virus, having no regard for its quality, except that it must be sure to 'take,'—*i.e.*, make a sore arm. Again, if the animal after inoculation be not properly cared for, and be allowed to lie down in wet and filth, the vesicles are very apt to be associated with an inordinate amount of inflammation. Virus collected under such circumstances is very liable to contain inflammatory products, and must frequently give rise to undesirable results in the human subject. . . . It is obvious, therefore, that it is not only important that the animals should be kept in clean and well-ventilated stables, and the inoculated surface sedulously guarded against the irritating influence of decomposing stable débris, but that the virus should be collected at the proper time, and particularly before the vesicles have reached too late a stage of development. It is very probably true, as elsewhere stated, that up to a certain stage 'the unbroken vesicle contains no superadded products, and will convey cowpox uncomplicated. Later, when granular and pus cells appear, and, above all, when the ruptured vesicle becomes the seat of septic and other bacteria, the virus cannot be sent out with the same confidence.'"

I have time only to refer to a few of the many instances of bad results from the use of "bovine virus" which have come to my knowledge through medical journals, private correspondence, etc. Dr. D. I. McMillan,† of Sunbeam, Illinois, reports quite a variety of curious effects from the use of "bovine virus" obtained from a reliable house in Chicago, "a firm that only deals in first-class goods." The effects consist mainly of large and deep ulcers on the arm, active inflammation, copious eruptions, severe constitutional symptoms, and convulsions. Another physician says that "about one in ten of all vaccinated have bad arms, with a high grade of fever, and an eruption resembling that of *rötheln*, or German measles." The remark is occasionally heard among those who suffered, "I would rather have the smallpox than be vaccinated."

Dr. T. M. Rogers, of Fairfield, Illinois, says,‡ "In the last few weeks almost nine-tenths of our community have been vaccinated, and mostly by bovine virus. We first used points and quills, but, being expensive and, we found, rather uncertain, we sent to New York for bovine crusts. These have been used by a number of physicians in this town and vicinity. As a result, in many instances, whole schools have been broken up for from one to four weeks on account of the severity of the virus; the vaccinated arms were swollen from the shoulders to the tips of the fingers, and presented dark-red, sometimes almost black ulcers, from one to one and a half inches deep, and from two to three inches in diameter, which proved difficult to heal; these often occurred in apparently healthy persons, both old and young. Those who had typical scars were not exempt, but did not suffer so severely, and the disease usually ran a much shorter course. I would be glad to know if this has been the ex-

* Medical News, May 13, 1882: "The Medical News Commission on the Management of Vaccine Farms and the Propagation of Bovine Virus."

† Medical News, March 18, 1882.

‡ *Ibia.*

perience of others. Physicians here have had a similar experience."

Through the courtesy of Dr. Levis, I have recently seen a letter written May 20, 1882, by a physician of Karthaus, Pennsylvania, in which he says that about two months ago a case of smallpox occurred about seven miles from his residence, and as most of the citizens had never been vaccinated, he concluded he would give them the benefit of vaccination. He wrote to a very reliable drug firm of Philadelphia, requesting a supply of bovine virus in the form of *crusts*. They were duly received, and he began vaccinating April 22, and continued until May 10, when he concluded that the virus was not pure, for, instead of producing true vesicles, it gave rise to phagedænic ulcers, eating out the integuments of the arm nearly to the bone, and causing severe constitutional symptoms in some cases, and in others typhoid symptoms to such an extent that their lives were in great danger. The "vaccinated" arms swelled from the shoulder to the hand, and in one case an abscess occurred in the axilla four weeks after the "vaccination" had been performed. The ulcers spread to the size of a silver dollar, though the place of insertion of the virus was about as large as a silver three-cent piece. Diphtheria of a malignant form occurred in several families, and always among those who were vaccinated. In one family, two cases out of three died. There had been no diphtheria in that part of the country for several years; and, so far, it has occurred only among those who were "vaccinated." In many cases there was an eruption all over the body similar to rubeola. The patients were left in an anæmic condition.

Very serious results have also been known to follow the use of a patented vaccination compound known as "cones." Dr. T. S. Hopkins, of Thomasville, Georgia, writes,*—

"Our town authorities have employed a physician to vaccinate all persons presenting themselves for the purpose. The 'virus' was furnished by the town, and procured from the New England Vaccine Company, Chelsea, Massachusetts, as 'bovine matter.' The result has been fearful. Nearly every one vaccinated has suffered severely from erythema or erysipelas, the arm swollen from shoulder to wrist, and the point of puncture presenting the appearance of a sloughing ulcer, discharging freely sanious pus. Many of the cases have been confined to bed with high fever from five to ten days, requiring the constant application of poultices to the arm, and the free use of morphia for the relief of pain. It is rumored that the National Board of Health intends to distribute vaccine matter through the country. I deem it my duty to inform you of the result here from the matter used, and *from whence* it came. It came in 'cones' said to contain (each cone) enough to vaccinate one hundred persons, at a cost of one dollar per 'cone.' It 'takes' in all cases, regardless of previous vaccination as shown by well-pitted mark, and the inflammation begins frequently on the second day. Those who have tried it tell me they would much prefer to have smallpox."

Dr. Snively, of Brooklyn, who reports the case of Chief-Engineer Whittaker, U.S.N., who took erysipelas about two weeks after being vaccinated and died, informs me that the vaccination was performed from one of the "patented cones." Dr. Kershner, of the Navy, who originally had charge of the case, expresses a doubt about the erysipelas being caused by vaccination, but adds, "but had the vaccination not been there he might have escaped the disease. I have had no other cases, but the Powhatan, lying near us, had one fatal case some weeks ago."†

There are other forms of so-called "preserved vaccine" used in some other countries which have given rise to serious results. In Italy the plan has been tried of cutting out the "pustule" (vesicle), placing it between two thick glasses, one having a small concavity for its reception, and thus sending it to distant places for use. This method is no longer practised: the sad occurrence at San Quireio gave it a fatal blow. "Thirty-eight children, vaccinated in the heat of summer by means of similar fragments of flesh, which, by the testimony of the vaccinators themselves, exhaled an abnormal odor, were seized with eclampsia and extensive phlegmonous inflammations, and many of them died." At Milan the plan has been adopted, by M. Nobli, of excising the "pustule" on the sixth or seventh day,

* National Board of Health Bulletin, March 4, 1882.

† The Proceedings of the Medical Society of the County of Kings, April, 1881.

fixing it with a pin to a piece of wood, with the bleeding surface downward, and scraping off the parenchymatous structure, to which are added some drops of glycerin; the mixture thus made is preserved in close vessels, in a refrigerator, and sold. Warlamont has used this material, and says, "Whether in the calf or in the infant, the insertion of this matter, rich in animal particles, nearly always gives rise to phlegmonous and eczematous pustules. Inexperienced vaccinators think these to be 'splendid pustules:' we consider them to be of bad quality, and their evolution is frequently accompanied by inflammatory complications."

All careless and faulty methods of collecting and preserving vaccine virus cannot be too strongly condemned, since they tend to bring vaccination unjustly into disrepute. When bovine virus is to be purchased, it is not enough to know that the material offered for sale bears that name: inquiry should always be made in regard to the *special knowledge*, and the *reliability*, of the producer. With but little care, it is possible to obtain from competent propagators animal lymph of the highest degree of excellence, without having recourse to bovine crusts, "Roman pustules," "Milanese vaccine," or the "patented cones."

1214 Fairmount Avenue.

THE EVIL EFFECTS OF THE NASAL DOUCHE.

Read before the Philadelphia County Medical Society, June 28, 1882,

BY CARL SEILER, M.D.,

Lecturer on Diseases of the Throat at the University of Pennsylvania; Chief of the Throat Dispensary at the University Hospital, etc.

SEVERAL years ago I read a paper before this Society in which I pointed out the proper manner of using the nasal douche so as to avoid some of the ill effects which may be produced by this instrument. Since then I have given the matter close attention, and have found that the nasal douche, both anterior and posterior, is in many cases of nasal disease a most dangerous instrument to place into the hands of the patient. If we examine the current medical literature, we will find a number of cases reported in which diseases of the middle ear, inflammation of the mucous membrane lining the frontal sinuses, meningitis, and even death, were caused more or less directly by the nasal douche; and I have myself seen several cases of acute otitis media caused by water from the douche entering the Eustachian tube.

The question then arises, Shall the nasal douche be used at all, and, if so, how shall it be used, and in what class of cases? To answer these queries is the object of my communication.

In the first place, let me reiterate what I said in my former communication,*—viz., that the nasal douche is one of the best means of cleansing the nasal cavities, and that it can be used in many cases without fear of evil consequences, if the proper precautions are observed. These precautions are—1, that the liquid should be of the temperature of the body; 2, that it should be of the same specific gravity as the serum of the blood, a liquid easily obtained by dissolving an even teaspoonful of common table-salt in a pint of water; 3, that the bottom of the vessel should not be elevated above the forehead of the patient using it, for if the vessel is held higher the force of the liquid becomes so great as easily to find its way into the cavities contiguous and communicating with the nasal cavities; and, 4, that while the water flows through the nasal cavities the patient should abstain from swallowing, because during the act of deglutition the mouth of the Eustachian tube is momentarily opened, thus allowing the fluid to enter the middle ear.

More important, however, than the above precautions, is the proper selection of cases. A glance at the mechanical arrangement of the nasal cavities will show us that a stream of water thrown up through one nostril passes into the post-nasal cavity, and, being prevented from passing into the lower pharynx by the soft palate, which is raised, will flow out through the other nostril. If, as is so frequently the case in nasal catarrh, the nostrils are more or less obstructed by deviation of the septum, exostosis or *echondrosis* of the septum (if I may be allowed to coin a word to designate the localized thickening of the cartilaginous portion of the septum), or by anterior or posterior hypertrophies of the erectile tissue covering the turbinated bones and by polypi, the easy outflow of the fluid is prevented, it accumulates in the post-nasal cavity, and is forced into the middle ear, the frontal sinuses, and

* Transactions of the Philadelphia County Medical Society, 1879.

even into the antrum, giving rise to inflammation of the mucous membrane lining these cavities. It frequently occurs that the hypertrophies act as valves, allowing the fluid to pass up, but prevent it from flowing out again. This is especially noticeable in cases of posterior hypertrophies, which, being attached to the turbinated bones by a sort of pedicle, are forced by the inflowing current into the post-nasal cavity, thus making room for the liquid to pass in, but are tightly wedged into the nostril by the return current, and prevent any outflow.

In cases where the tissue is not sufficiently hypertrophied to cause an obstruction to the current of liquid from the nasal douche under ordinary conditions, it will swell up and cause obstruction when an acute congestion is present, or if the fluid used is too cold or not of the proper density. The same objections hold good when the post-nasal syringe or douche is used, for an obstruction in the nostrils also causes in this case an accumulation of liquid in the post-nasal cavity.

It will therefore be seen that the nasal douche should be used only in those cases of nasal disease in which there is no obstruction in the nostrils, but where there is an accumulation of secretion which, becoming inspissated, gives rise to the fetid odor noticed in ozæna. A copious stream such as can only be obtained from the anterior or posterior nasal douche is needed to remove the dried crusts and thoroughly cleanse the nasal cavities, and I am in the habit of adding some soda or borax to the solution of salt and water, because I have found that an alkaline solution dissolves and dislodges the crusts more readily than a neutral one. The amount of salt should of course be reduced in proportion to the addition of the alkali.

CHLORAL IN BELLADONNA-POISONING.—In the *Lancet*, Dr. Protheroe Smith reports a case of belladonna-poisoning from inadvertence, the dose being from half an ounce to an ounce of the liniment, which was taken at 5 A.M. The lady was seen at 9 A.M., and a mustard emetic caused free vomiting. She was treated with opium, stimulants, and food. Next day, at 11 A.M., she remained still incoherent, restless, but with a fuller pulse. At this time half a drachm of chloral hydrate was given. In half an hour she regained consciousness, and, after enjoying a refreshing night's rest, was next day quite well.

THE PATHOGENESIS OF SECONDARY TUMORS.

BY HENRY WILE, A.B., M.D.,

(Continued from page 774.)

CHAPTER IV.

TRANSPLANTATION OF NORMAL TISSUE.

SIMULTANEOUSLY with the transplantation of tumor-particles, a series of thirty-eight transplantations with normal tissue was carried on, in order to discover the fate of such transplanted particles, to see whether they would continue to grow, or whether they would be absorbed after a certain time, as is asserted by some distinguished observers. Thus, should the experiments show that these particles of normal tissue continue to grow and develop in a manner similar to transplanted tumor-particles, it would throw light upon the question whether tumors grow by virtue of specific properties residing in the cells, or whether they grow by virtue of ordinary cell-life.

From the table given on the following two pages it will be seen that thirty-eight experiments were performed with normal tissues, after the manner described in Chapter I., and that out of these thirty-eight sixteen yielded positive and twenty-two negative results.

The emboli put into the jugular vein were found, at the autopsy, in the lungs,—*i.e.*, in positive results. If inserted in the right jugular vein, the emboli, with few exceptions, were found in some one of the right lobes of the lung; if in the left vein, they were found on the left side. This observation, though not pertinent, is interesting to record, as it would seem to indicate a division in the current of blood. Most of the emboli were found on the surface of the lobes, and seem to have been forced to that position by the pressure of the blood. Some of them found their way to the very edge of the lobes. Microscopically they were sharply circumscribed, and projected somewhat from the surface of the lobes in the form of nodes. The experiments are of different duration, and the emboli thus present differences in size and outline. Thus, the experiment of nineteen days' duration shows a thin lamella of bone, while the experiment of thirty-three days shows already a distinct small centre of ossification.

No. of Experiment.	Date of Experiment.	Kind of Animal used.	Substance introduced.	Where introduced.	Duration of Experiment, in Days.	Result of Experiment.
	1881.					
1	Jan. 10 to Jan. 30.	Large white dog.	Periosteum taken from left radius.	Right external jugular vein.	20	Adhesions were found between the inferior lobe of right lung and the chest-wall, together with marked congestion of the same lobe, which indicated a previous inflammatory process. Nothing could be found of the embolus. Result negative.
2	Jan. 30 to March 4.	Small black dog.	Periosteum taken from left radius.	Right external jugular vein.	33	Found small hard nodule in right inferior lobe, on the surface and near the middle of the lobe. Specimen under the microscope showed bone-tissue. Result positive.
3	Feb. 8 to Feb. 28.	Large white and brown dog.	Periosteum taken from left radius.	Right external jugular vein.	20	There was no trace of the periosteal embolus, and everything about the lung had a normal appearance. Result negative.
4	Feb. 10 to April 1.	Small brown dog.	Periosteum taken from left radius.	Right external jugular vein.	50	Found nodule in right inferior lobe, on posterior surface, about the middle of the lobe. The nodule was cut without maceration, and under the microscope revealed the structure of bone-tissue. Result positive. See Fig. 5.
5	Feb. 15 to March 19.	Small yellow dog.	Periosteum taken from left radius.	Right external jugular vein.	32	The embolus was nowhere to be found. The lungs were normal. Result negative.
6	Feb. 26 to June 6.	Large brown dog.	Periosteum taken from left radius.	Right external jugular vein.	100	The lobes of the lungs were the seat of many infarctions and scattered centres of ossification. In the left superior lobe was especially one large centre of ossification. Four of the many centres were cut, and, being examined under the microscope, proved to be true bone-tissue. Result positive.
7	March 1 to June 1.	Small bitch.	Periosteum taken from left tibia.	Right external jugular vein.	92	No trace of the embolus could be discovered. Result negative.
8	March 5 to April 11.	Large white poodle dog.	Periosteum taken from right tibia.	Right external jugular vein.	37	Found one small bony nodule situated on the anterior surface of the right middle lobe. Specimen under the microscope proved to be bone-tissue. Result positive.
9	March 24 to June 6.	Large white bitch.	Periosteum taken from right tibia.	Right external jugular vein.	74	Noduie found on surface of right inferior lobe. It was firm and resisting, measuring about 3 mm. (⅛ in.) in diameter. On section, proved to be bone. Result positive.
10	April 1 to June 3.	Medium black dog.	Periosteum taken from right tibia.	Right external jugular vein.	63	No trace of the embolus, and everything about the lung seemed normal. Result negative.
11	April 11 to April 30.	White dog (spitz).	Periosteum taken from right tibia.	Right external jugular vein.	19	Found small nodule on the anterior surface of right middle lobe. The specimen, examined microscopically, shows structure of bone. Result positive.
12	April 12 to June 4.	Small brown dog.	Periosteum taken from right tibia.	Right external jugular vein.	53	No trace of the embolus could be found. Result negative.
13	April 13 to May 24.	Black-and-white coach-dog.	Periosteum taken from right tibia.	Right external jugular vein.	41	No trace of the embolus could be found. Result negative.
14	April 19 to June 2.	Medium black dog, shaggy hair.	Periosteum taken from right tibia.	Left external jugular vein.	44	No trace of the embolus could be found. Result negative.
15	April 21 to May 25.	Small black-and-tan dog.	Periosteum taken from left tibia.	Left external jugular vein.	35	Nothing abnormal could be found about the lungs. Result negative.
16	May 4 to May 19.	White spitz dog.	Periosteum taken from left tibia.	Left external jugular vein.	15	Result negative. The embolus could not be found. Probably arrested somewhere in the heart.
17	May 21 to June 8.	Small brown bitch.	Periosteum taken from left tibia.	Left external jugular vein.	18	Result negative.
18	May 19 to June 8.	Large Newfoundland dog.	Periosteum taken from right tibia; also particle of skin.	Right external jugular vein.	20	Result negative.
19	May 20 to June 9.	Small black bitch.	Periosteum taken from right tibia.	Right external jugular vein.	20	Result negative.
20	Sept. 7 to Dec. 6.	Small black-and-tan dog.	Periosteum taken from left tibia.	Left external jugular vein.	70	Found small resisting nodule on surface of right superior lobe of lung. Section revealed true bone-structure. Result positive.
21	Oct. 1 to Nov. 15.	Small black-and-white dog.	Periosteum taken from left tibia.	Left external jugular vein.	45	Found nodule on surface of right inferior lobe of lung. Result positive.
22	Oct. 19 to Dec. 28.	Small black bitch.	Periosteum taken from right tibia.	Right external jugular vein.	70	Result negative.

No. of Experiment.	Date of Experiment.	Kind of Animal used.	Substance introduced.	Where introduced.	Duration of Experiment, in Days.	Result of Experiment.
	1881.					
23	Oct. 19 to Dec. 21.	Small yellow bitch.	Periosteum taken from right tibia.	Right external jugular vein.	63	Result negative. No trace of embolus.
24	Oct. 22 to Dec. 11.	Large yellow bitch.	Periosteum taken from right tibia.	Right external jugular vein.	50	" " " " "
25	Oct. 26 to Dec. 21.	Large gray dog.	Periosteum taken from right tibia.	Right external jugular vein.	56	Found resisting hard nodule on surface and edge near apex of right middle lobe of lung. Result positive.
26	Oct. 29 to Dec. 18.	Large black bitch.	Three fragments were introduced.	Right external jugular vein.	50	The animal died of hydrophobia, having been bitten by another dog. It died five days after manifestation of first symptoms. Three nodes were found, besides many scattered centres of ossification. Two of the principal nodes were on surface of right middle lobe, and the other was on the surface of right superior lobe. The two lobes are preserved in alcohol. Result positive.
27	Nov. 1.	Small black-and-tan dog.	Fragments of skin, the dead epithelium having been scraped off.	Right external jugular vein.	...	The dog escaped seven days after the operation.
28	Nov. 4 to Dec. 24.	Small black-and-tan dog.	Skin with horny layer scraped off.	Right external jugular vein.	50	Result negative.
29	Nov. 9 to Dec. 30.	Large black dog.	Skin with horny layer scraped off.	Right external jugular vein.	51	The embolus was found in the right superior lobe of lung near the periphery, encysted in a blood-vessel. It had increased in size, and did not exhibit any retrograde changes. Result positive.
30	Nov. 12 to Dec. 28.	Small black dog.	Periosteum taken from right tibia.	Right external jugular vein.	46	Result negative.
31	Nov. 12, 1881, to Jan. 2, 1882.	Small black-and-tan bitch.	Periosteum taken from right tibia.	Right external jugular vein.	51	Scattered centres of ossification on the surface of all the lobes of the lung. They presented a glistening appearance, and to the touch were firm and resisting. The right middle lobe is preserved in alcohol. Result positive.
32	Nov. 30 to Dec. 24, 1881.	Small black-and-tan dog.	Periosteum taken from right tibia.	Right external jugular vein.	24	Result negative.
33	Dec. 3 to Dec. 17, 1881.	Large black bitch.	Periosteum taken from right tibia.	Right external jugular vein.	14	Found nodule in left inferior lobe of lung. Result positive.
34	Dec. 6 to Dec. 20, 1881.	Small black-and-tan dog.	Periosteum taken from right tibia.	Right external jugular vein.	14	Found nodule in right middle lobe of lung. Result positive.
35	Dec. 10 to Dec. 24, 1881.	Small white bull-dog.	Periosteum taken from left tibia.	Left external jugular vein.	14	Found nodule in right superior lobe of lung. Result positive.
36	Dec. 10, 1881, to Jan. 7, 1882.	Small white-and-yellow dog.	Periosteum taken from left tibia.	Anterior chamber of left eye.	34	After two days the cornea became opaque. A keratitis followed, and the aqueous humor of the anterior chamber became replaced by some new-formed apparently organized material. Result negative.
37	Dec. 21, 1881, to Feb. 2, 1882.	Small black-and-tan dog.	Fragments of unstriped muscular tissue taken from cervix uteri. Removed by Dr. W. Goodell.	Right external jugular vein.	42	Found nodule in right inferior lobe of lung. It had increased in size, and did not show any retrograde change. Result positive.
38	Dec. 23, 1881, to Jan. 28, 1882.	Large black dog.	Fragments of unstriped muscular tissue taken from cervix uteri. Removed by Dr. W. Goodell.	Right external jugular vein.	36	Negative result.

The ossification always taking place from the proliferating or internal layer of the periosteum, it naturally followed the line of that layer, which was in many cases tortuous, for, as the periosteum was being swept along through the blood-vessels, it became rolled up and twisted. This accounts for the twisted appearance of some of the nodules. In the next chapter the microscopic details will be considered.

A VISIT TO GHEEL.

[An esteemed friend sends us a few extracts from a private letter, embodying personal observations and impressions of the insane colony at Gheel, which are of considerable interest. They were made by an American physician upon the spot, and our correspondent vouches for their fidelity.—Ed. *Medical Times.*]

THE guide was a sort of troublesome necessity, as the people could have refused us entrance if so disposed, and I doubt whether wholly reliable, as, for instance, in the morning being asked concerning illegitimate children, he said, "One in four years;" in the afternoon, in answer to the same question, he said, "One in two years." Likewise, in the morning, "accidents never happened;" later in the day he remembered of one child being killed by a patient who was taking care of it, one born was burned, one patient assisting in loading hay put his fork into a man and attempted to toss him up, the injury proving fatal. These things made me a trifle sceptical concerning the utter absence of accidents. Concerning melancholics, nothing could be elicited further than that, like the homicidal, they were sent to Bruges. The physician in charge directed to have us taken into the least populous third of the colony and the newest portion; but if the remainder is worse than that which we saw, as one might infer, I am sorry for Belgium. The weather was rainy, and so we found the people mainly at home, and took their landlords by surprise, and, taken as a whole, it reminded me of an early visit around a hospital before things could be put in order. In the best houses we found beds made up and things in order; in the majority it was the reverse. Patients of one sex only are allotted to a family; their rooms must be a brick structure, usually an addition,—a sort of lean-to against the cottage, averaging $6 \times 8 \times 6$ feet; ground-floor well paved with brick,—therefore no wooden floor; windows 2×2 feet, barred, and a sort of a cat-hole on a level with the floor, for ventilation and the escape of scrub-water. The beds were generally box arrangements with straw, covered with a sheet; in other cases, an ordinary straw tick and sheets and blankets, coarse but sufficient. They are locked in at night.

What I have to say applies to people in the farm-houses, having visited only a few houses in the town. The fare very usually is the ordinary black bread and coffee (chiccory) for breakfast, boiled potatoes, bacon, and bread for dinner, and bread and buttermilk for supper. The farmers receive twelve cents per day per person, for which they are boarded and taken care of. Three cents are added for the dirty.

The chief physician visits the colony once in six months; the physician of the section, once in two weeks, unless sent for. A supervisor makes the tour of the farm-houses daily; but if he is like the one who accompanied us, he is harmless, the farmer who has the most likely daughters getting the least trouble. Restraint is by rule only applied by order of the physician of the section. In the thirty houses I visited I saw only one *camisole*. I saw one woman with iron anklets so rusted that a smith would be required to remove it. It was applied to keep her from running away. The use of hopples is not infrequent with cases disposed to elope. Many of those requiring restraint are sent to Bruges.

The provisions for heating are apparently *nil*; there is certainly nothing in the room of the patient nor in any other of the house, except the kitchen, whose large fireplace, judging from the ceiling, gives out more smoke than heat. One family kept their patient warm with bottles of hot water to the feet, and a layer of hay.

Gheel may do for Belgium, but not for us. Even in Belgium things are changing greatly from year to year, according to accounts; and from statements of inhabitants of Gheel, it is only a question of time when this system will have to be given up. In the country they are miserably taken care of, and in town, where men and women go about unaccompanied, results easily anticipated occur. We found some houses which had rooms to let. The reasons are suggestive: in one case the family used the patient's blanket in a winter night; in another the patient was abused; a third had a female patient who had become pregnant; a fourth became vacant for the same reason. I should judge there is more trouble on this score than is admitted. The fact that there are two hundred vacant beds in the colony now was used to corroborate the statement above made, that this system of taking care of the insane would have to be abandoned.

Heretofore I had entertained some poetical ideas concerning Gheel: the prose that I saw was sufficient to dispel them.

The guide told me that the majority of visitors went no farther than the town. Having myself seen more of the country than of the town, I may have seen less of the good features and more of the bad than is usually the case; but I am convinced that the general plan of Willard and the "Relief" at Washington are much better than this. X.

CACTUS GRANDIFLORA IN SUBACUTE AND CHRONIC RHEUMATISM.

BY HARVEY L. BYRD, M.D.,

President and Professor of Obstetrics and Diseases of Women and Children in Baltimore Medical College, Baltimore, Md.

AS our profession is founded essentially upon observation and experience, it becomes the duty of every one of its members to add all such new or unusual facts as have come under his purview or personal observation sufficiently often to convince him of their accuracy to the vast amount of valuable material accumulating almost daily, and imparting strength and durability to the grand old structure that has been gradually rearing its imposing and magnificent proportions through the ages that have passed.

These remarks are not designed or intended to call attention to the night-blooming cereus as a new remedy, nor, indeed, to what may not have been observed of its action or effects by others, but to direct the attention of practitioners to results which have been obtained so often by this single remedy as to entitle it, in my judgment, to far more confidence and frequent use than it has heretofore obtained with the profession generally. I have been getting better results for some time past from the administration of cactus grandiflora in heart-troubles resulting from or depending upon rheumatism than from any other remedy or combination of remedies in the relief of pain in that organ. The promptness and uniformity of its action in arresting pain in the heart resulting from rheumatism have been gratifying to my patients and myself in a considerable number of cases, and thus prepared the way for the early use of other treatment, when any additional treatment seemed to be demanded or required.

Its action in such cases led me some time ago to its use in subacute, and lately in a few cases of chronic, rheumatism of the muscular structure; and I am happy to state that my expectations of good results have been fully realized in those cases also. I am not prepared to say what it might be capable of effecting in the acute form of the disease; but I feel warranted in concluding that we might reasonably expect favorable results from its use, particularly after suitable catharsis had initiated the treatment, and, indeed, from my experience, *cæteris paribus*, I would not be surprised if it should be found upon further use to be one of our most valuable therapeutic resources in the incipiency of an attack of rheumatism.

I am accustomed to prescribe the fluid extract of the cactus as it is prepared by Messrs. Sharp & Dohme, of this city, and in eight- to twelve-drop doses, every three hours, or oftener, as the symptoms require, and do not hesitate to say again that I have obtained better results from its action in the cases in which it was directed than I could reasonably have expected from any agent with which I have had experience in my practice.

I shall give the cactus a fair trial in the next case of acute rheumatism that may come under my professional care, and shall be much disappointed if I do not find it of great efficacy in controlling the inflammatory symptoms, and also in preventing that most distressing and sometimes fatal sequel recognized as rheumatism of the heart.

Will not some of our brethren furnish us with the results of their experience with cactus grandiflora in rheumatism through the pages of the *Medical Times?*

127 ARLINGTON AVENUE.

TRANSLATIONS.

TREATMENT OF MALIGNANT GROWTHS OF THE MAMMARY GLAND BY ELECTRICITY AND POTASSIUM IODIDE.—In a memoir presented to the late International Congress, entitled "A Clinical Contribution to the Local and General Treatment of Malignant Tumors of the Breast and other External Situations," Prof. Mariano Semmola, of the University of Naples, reports successful results from the local use of galvanism combined with the internal administration of large doses of potassium iodide. The large needles of Ciniselli (steel, unpolished) were used in the cases reported, in the following

manner: the needle connected with the negative pole was slowly but deeply introduced from the circumference towards the centre of the tumor; the positive pole was at first likewise inserted, but in his later cases the author preferred to apply the anode to the skin at a point somewhere near the insertion of the cathode, in such a manner as to make the current traverse the greatest part of the tumor. The apparatus used was that of Stohrer, with small cells, or of Onimus modified by Vizioli, the maximum strength of the current employed being between 25° and 30° of the galvanometer of the latter. The séances should vary with the strength of the current, long applications with feeble currents being preferred to those of shorter duration with greater intensity. Where there is lymphatic involvement, and it is advisable to excite inflammation destructive in character, both needles are thrust into the growth, and a strong current employed. He practised, at first, applications of ten or fifteen minutes, but now prefers those of an hour at each sitting, with a feeble galvanic current, this to be repeated once or twice a week, rarely oftener than three times a week. The successive insertions are made in a circle around the base of the tumor, or around the nipple when the growth involves the whole gland. They are nearly painless.

The communication is based upon six cases in which the diagnosis was confirmed by competent surgical, and in some by microscopical, examination. They were a very large epithelioma of the right breast (the size of an orange), a fibro-sarcoma of the right breast, two sarcomata of the right breast, a sarcoma of the left breast, and cystic sarcoma of the upper third of the arm. The duration of treatment is necessarily long, the minimum being twenty-four applications made three times per week; in one case it extended over eight months. The results were sufficiently encouraging to warrant further trial for this method. Prof. Semmola concludes that—1, electrolytic treatment applied to malign tumors, such as epithelioma, sarcoma, fibro-sarcoma, etc., is capable of curing them, by acting in three different ways: *a*, by producing small centres of inflammation with consecutive sclerosis; the tumor is reduced to a volume very small as compared with its primitive size, and remains as a local hardening (cicatricial); *b*, by producing a colloid and fatty transformation in the mass of the tumor, especially when it is in the way of softening; and, *c*, in provoking destructive inflammation followed by sloughing and abscess. 2. With the electrolytic treatment it is necessary to employ potassium iodide in large doses, perseveringly administered, in order to modify the direction of the nutritive changes.

Results of Antiseptic Methods at the Maternity Hospital, Paris.—M. Tarnier, in a recent address, instituted a comparison between two series of twelve years each before and after the adoption of special measures to prevent the occurrence and spread of puerperal diseases. From 1858 to 1869, inclusive, there were 19,476 labors, with 1814 deaths; mortality, 9.31 per cent. From 1870 to 1881, inclusive, there were 14,998 labors, and only 349 deaths, or a mortality of 2.32 per cent. The year 1870 marked the date of the introduction of prophylactic measures, and their results are no less convincing than gratifying. The reduction of the mortality, he states, is to be attributed (1) to a separation of the *personnel* of the maternity department and the dispensary service, and forbidding attendants in the lying-in wards from visiting the infirmary; (2) to isolation of patients; and (3) to the adoption of the antiseptic system of Lister and Pasteur. In the obstetric service, this method consisted in the careful and antiseptic washing of the hands of every one medically connected with the case, the use of carbolized oil or ointment, washing instruments with antiseptic solutions, disinfecting all dressings to be used, carbolized vaginal irrigation before and after delivery (especially when difficult), the application of antiseptic cloths after parturition is accomplished, the introduction of the vapor of carbolized fluids into the apartment, etc. In a special pavilion, in which these measures are carried out *de rigueur*, where healthy patients are taken and kept isolated until after delivery, out of 1223 accouchements there were only 6 deaths,—less than one-half per cent.,—and since 1879 there had been 608 cases confined, without a single death.

Pregnancy in Advanced Age.—In the *Edinburgh Medical Journal* for June is the report of the delivery of a woman sixty-two years of age, by Dr. W. J. Kennedy. She had previously had twenty children (twins once), and three miscarriages.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, AUGUST 26, 1882.

EDITORIAL.

EDUCATION IN ITS RELATION TO CRIME.

AS the general average of mental culture improves in a community, it is to be expected that a diminishing proportion of the inmates of public institutions will be found to be grossly illiterate: for instance, in a country like Prussia, even the criminals will possess more literary accomplishments than in others that might be named, where general education is less carefully cultivated. Because criminals sometimes can read and write, it does not therefore follow that general education has failed to diminish the tendency to crime: it simply demonstrates that in any given case a certain amount of mental training is not incompatible with moral obliquity. This truth is so self-evident that it scarcely seems necessary to state it, were it not that some persons, misled by superficial appearances, jump at the altogether irrational conclusion that because education does not abolish crime it therefore increases it. When confronted with overwhelming evidence against this view, they hastily adopt the equally unfounded assumption that higher education does not reduce the tendencies to crime. This statement has been repeated so often that some regard it as an established truth.

The experience of military writers proves that the greatest number of breaches of discipline and instances of insubordination occur in the illiterate, and increase in proportion with the ignorance of the subject; and one of the most striking lessons of modern warfare is that the higher the mental training the better will be the soldier. This truth is equally applicable to the discipline of civil life: the more intelligent the citizen, the less active the temptations to crime, and the greater incentives to industry and thrift.

As the result of the labors of a special commission appointed by the National Educational Association for this investigation,* it was demonstrated, from the statistics of the penitentiaries and prisons of Pennsylvania, that "about one-sixth of all the crime in the country is committed by persons wholly illiterate, that about one-third is committed by persons practically illiterate, and, finally, that the proportion of criminals among the illiterate is about ten times as great as among those who have been instructed in the elements of a common-school education or beyond."

The experience of other observers proves conclusively that "in the immense majority of cases a very small degree of mental training or intellectual tastes is a preventive of idleness and consequent crime."

It has been asserted that in the Eastern States, with their abundant educational facilities, the proportion of convicts is greater than in the South; but there are many reasons for this which do not appear on the surface. The population of agricultural districts is well distributed; in manufacturing places it is condensed and congregated in towns, and the tendency to the commission of offences is greatly increased. Moreover, until within a few years, the South was comparatively free from the foreign element which gives such a large representation in all our public institutions, especially in prisons, pauper asylums, and political places. In localities of generally diffused intelligence and culture it is also to be noticed that the laws are, as the rule, more scrupulously enforced, and offences which in a younger community would scarcely attract attention are discovered and punished. It is a maxim well sustained by experience that

* The report in full has been published by the Bureau of Education, Department of the Interior, issued September 12, 1881, and is an interesting and convincing document.

laws cannot be enforced that are in advance of the general moral sentiment of the community: if enacted, they remain a dead letter upon the statute-book. The aggregate number of convicts is therefore not the criterion either of the intelligence or of the morals of a people. Hence every incentive exists in a country ruled by public sentiment to cherish the means of popular education, in ethics as well as in the arts, by free lectures, free libraries, and free schools. The public schools of the United States have well been styled the palladium of our liberties.

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

A CLINICAL meeting of the Society was held at the Hall of the Society on June 21, 1882.

CASE OF RECOVERY AFTER OPERATION FOR PERITYPHLITIC ABSCESS.

Dr. J. V. Kelly presented a patient who had been successfully operated upon for perityphlitic abscess. The clinical history was as follows. About the latter part of last year he suffered from colicky pains in the right iliac region, which pains continued to increase, and finally a tumor about as large as an orange was developed. No nausea or vomiting occurred; slight delirium and fever were noticed. But little doubt remained as to the diagnosis, which was confirmed by Dr. Pepper on consultation. The patient took to his bed after the tumor had developed. An operation having been decided on, Dr. Keen performed it under the antiseptic method, and the case progressed to recovery with no untoward symptoms except on one occasion, when a slight chill occurred from the patient getting wet during the application of the dressing. The pulse was high for some time after the operation. The patient is now perfectly well, and the scar of the operation was shown to the members.

Dr. J. L. Ludlow said that he recalled a case in which a diagnosis of perityphlitic abscess had been made, but in which he doubted the diagnosis, and, having let the patient alone, the abscess discharged externally without trouble. Two or three cases of this kind were known to him. In the patient now presented, the scar seemed higher up than would be expected if the appendix itself was involved. The previous history of the case, with the attendant *general* and *local* symptoms, will always put us on our guard as to diagnosis.

Dr. O'Hara had seen a case of perityphlitis threatening abscess, which terminated favorably; but in that case the patient seemed much sicker than this patient was said to have been. He would expect irritation of the psoas muscle. Any large accumulation of pus would give the symptoms which had been detailed. He did not think such a large accumulation could occur so quickly from irritation of the appendix, which would cause more or less peritonitis, circumscribed or diffuse.

Dr. Kelly said that the operation had been done by Dr. Keen, whom he had expected to be present to detail it, but, as far as he could recollect, the abdominal cavity was not opened. He agreed with the various speakers that mistakes might be made in the diagnosis, but this case had been examined by several physicians, including Drs. Keen and Pepper, and all had diagnosed it as inflammation around the appendix. Dr. O'Hara had misunderstood him in reference to the patient's walking about after the accumulation of pus had occurred. The patient had taken to his bed at that time. The case had really been brought before the Society as a protest against the conservatism which prevailed in Philadelphia in reference to this operation. The surgeons of this city seemed afraid to operate, while in New York they had no hesitation. In some instances it might be advisable to use the preliminary method of Dr. Willard Parker, of New York,—making an incision in the abdominal wall to invite the discharge in that direction.

DISCUSSION ON PUERPERAL ECLAMPSIA.

Dr. Ludlow said his experience was confirmatory of Dr. Smith's. He mentioned the case of a patient who went to Europe during her pregnancy, and aborted under conditions which Dr. Ludlow did not quite understand. She was again in Europe during a second pregnancy, and had some kidney-trouble, during which albuminuria existed, and she again aborted. When she returned to this country, he found albuminuria, an irregular heart, and peculiar delirium, like delirium tremens. He expected to see convulsions, but, although a miscarriage occurred, and the urine remained albuminous for some time, she had great insomnia and mania, for the relief of which he successfully used the old-fashioned camphor julep, after the more recent remedies had failed. The urine became normal and the heart regular, since which time she has not been pregnant. He afterwards found, by accident, that she had acquired in Paris the habit of taking chloral hydrate, which explained to a great extent her delirium. He desired to know if any of the members present knew of cases in which

chloral hydrate taken habitually, as in the above case, had seemed to produce trouble with the kidney, and, as a consequence, albuminuria.

Dr. Wm. T. Taylor said that during the relation of the case by Dr. Smith he was forcibly impressed with the fact that when a resort was had to the old-fashioned remedy of depletion, the cerebral trouble abated and improvement began to take place, showing the advantage of blood-letting. In regard to Dr. Ludlow's question, he stated that he had very frequently used chloral hydrate in fifteen- and twenty-grain doses in tedious labors, to quiet the patient and avoid the necessity of constant watching, and he never saw any injury from its use.

Dr. O'Hara said that the absence of albumen from a single sample of the urine did not prove that renal disease was not existing. He had seen cases of marked disease in which albumen was temporarily missing. For these reasons he could not agree that Dr. Walker's case proved either the absence of kidney-disease or that convulsions would produce albuminuria. He knew of a case in which chloral hydrate produced delirium of the character described by Dr. Ludlow, and supposed that if it were eliminated by the kidney it might be an irritant poison to it.

Dr. Neff asked whether Dr. Smith considered that all cases of puerperal eclampsia were caused by either organic or functional disease of the kidneys. If so, how can we explain those cases in which albumen is not found either before or after the convulsion? Dr. Neff detailed a case of this kind which had occurred in his own practice, stating, however, that out of ten cases this was the only one whose cause could not be traced directly to blood-poisoning through the improper elimination of effete substances by the kidney.

Dr. C. H. Thomas stated that Dr. Richardson, of Boston, had given special attention to the etiology of those cases of puerperal convulsions which were not associated with albuminuria, and had found that even in that class some kidney-trouble apparently existed, as in most of the cases a marked diminution of the amount of urinary secretion occurred.

Dr. E. W. Watson detailed a case which he saw in 1871. The urine had been examined at frequent intervals up to within twenty-four hours of the labor, and was always free from albumen or tube-casts. Convulsions occurred immediately after the labor, and two hours after their occurrence the urine was found to be highly albuminous. She has since had three pregnancies, with no appearance of albumen in the urine and no convulsions.

Dr. W. S. Stewart said that in his experience the convulsions occurred only in primiparæ. He had never seen true eclampsia in second or later labors, and would like to know what had been Dr. Smith's experience on this point. He had known of cases where epileptic women had passed through labor without any convulsions. In regard to chloral hydrate, he thought highly of it, but it might be abused. He had stopped a convulsion by the injection of a drachm of it into the rectum. In this case he could not resort to bleeding, as the blood would not flow. If he had but one remedy to depend upon in eclampsia, it would be chloral.

Dr. Blackwood said that no doubt violent convulsions could cause albuminuria, but Dr. Smith's case showed that albuminous urine of eclampsia was not always due to this cause, and he detailed a case in illustration.

CONGENITAL CYANOSIS.

Dr. J. T. Eskridge read a paper on "Congenital Cyanosis" (see page 797.)

SALIVARY CALCULUS.

Dr. Dunmire presented a patient from whom he had, in 1877, removed a salivary calculus. When first seen, the sublingual gland was much swollen and the tongue pushed up. A yellow spot was seen to the right of the frænum, and this was found to be the calculus. It was removed. A similar one had been removed previously, and one since. A fistula now exists, which, if closed up, might cause the development of another calculus.

A CONVERSATIONAL meeting of the Society was held at the Hall of the Society on June 28, 1882.

DISCUSSION ON EFFECTS OF NASAL DOUCHE.

Dr. J. M. Barton called attention to the remark of the lecturer "that an obstruction in the nostril, from which the fluid was expected to escape, while using the douche, would cause injurious pressure upon the Eustachian tube," and stated that under those circumstances the fluid would readily escape into the mouth. He also thought that the danger to the Eustachian tube from pressure while using the douche was much over-estimated. If even the nostril by which the fluid was entering were occluded at its posterior portion, he doubted if the Eustachian tube could suffer any mechanical injury from the use of the douche at its usual elevation. Aurists, in dilating the Eustachian tube with the Politzer bag, use much greater pressure than would be caused by the five-foot elevation of the tank. He regarded the temperature and specific gravity of the fluid as of more importance than the pressure.

Dr. Eskridge said that since he had followed the directions given by Dr. Seiler, in a paper read before this Society some years ago, he had had no trouble with the nasal douche. If Dr. Barton would try the douche on himself, holding the reservoir at an elevation of about one foot above the head, he would find the press-

ure severe. In his own practice he never allowed patients to use the douche until he had used it once on them, and had them use it once in his presence. One serious mistake often made was that of breathing through the nose while using the douche. He disagreed with Dr. Seiler as to the quantity of salt necessary to be added to water to bring it to the specific gravity of blood. Dr. Seiler had said that a teaspoonful of common salt added to a pint of water would raise the specific gravity of the latter to that of blood; but Dr. Eskridge had tested the gravity of solutions of salt of different strengths, and had found that it required more than a half-ounce of the salt to raise the gravity of a pint of water to 1030, an ordinary teaspoonful raising it only to 1018. The specific gravity of blood is 1030; that of blood serum, 1028.

Dr. Nancrede said that all bad results which were observed in cases where the nasal douche had been used were not always fairly attributable to this instrument. In certain cases they would have occurred if such an instrument had never been conceived of. He related a case in point, of suppuration of the middle ear, which, in the opinion both of Dr. Burnett and himself, was due to the constitutional condition and concomitant disease rather than to the use of the douche. This was the only case within his personal knowledge where bad results had been even suspected from the use of this instrument, although he could readily conceive that its reckless use would prove injurious.

Dr. Addinell Hewson said he thought that the dread of the column of water doing injury to the middle ear through the Eustachian tubes, in the use of the nasal douche, was unfounded, for when the douche was properly administered, and the patient held his half-arches and velum sufficiently up to prevent any of the wash from the bottle passing down the posterior nares out the gullet, the half-arches were then so firmly pressed in their lower parts against the lateral portions of the pharynx as to secure the closure of those tubes. When the douche is not properly administered, such troubles might occur; but Dr. Hewson's plan is never to let the patient use the douche without his assistance or presence, and then to exact the observance of those conditions.

Dr. Blackwood did not allow water to get into the frontal sinus, and does not use the douche as much as formerly. Patients are apt to put the bottle too high, or use the water too hot or too cold. The post-nasal syringe and atomizer are much more valuable and efficient, but should always be used only by the physician.

Dr. Seiler, in closing the discussion, said that if Dr. Barton would make the experiment of taking salt water and fresh water in his nares, no matter of what temperature, he would soon see that the fresh water is more irritating. Many points alluded to in the discussion Dr. Seiler said he would have to pass over, as he did not intend this evening to discuss the treatment of catarrh. The douche is only useful in the third or atrophic stage of catarrh, when the glands are diminished in function, and the mucous membrane is consequently dry, a fetid odor exists, and the condition is called fetid nasal catarrh: the term ozæna is now obsolete. In some cases presented for treatment the lower turbinated bone is wanting. Gottstein has suggested the use of a pledget of medicated cotton as a substitute for the bone. The good results are undoubtedly due to the stimulating action of the cotton as a foreign body, and not to the medicating solution. If the post-nasal cavity is obstructed, and the cavity filled with fluid, the pressure on the Eustachian tube will be the same no matter where it opens; if the cavity is not obstructed, the pressure will depend only upon the size of the outlet and the height of the reservoir.

DISCUSSION ON VACCINATION.

Dr. O'Hara said he did not like bovine virus: it did not take well, and when it did it was prone to irritate. He had seen some very ugly growths from its use, especially what might be called the "strawberry" form, which looked like a keloid of a red color.

Dr. James Collins said that he had been deeply interested in the paper, and could agree with everything said. He had seen much trouble from bovine virus; in some cases phagedæna or erysipelas had resulted, and vesicles not at all like those of vaccine appeared. He feared that not more than one-fifth of the vaccinations at present done were protective.

Dr. Loder said that as vaccine physician he had made several thousand vaccinations, and had seen the strawberry vesicle often, but only from bovine virus. In his experience it was late in appearance. He has now a case of painful tumor of the arm resulting from such virus. He had learned that humanized virus was bought by druggists, put on points, and resold as animal virus. He had used about twenty of the cones, and found only five good: those received direct from Chelsea were good, but those from the agency in this city were mostly worthless.

Dr. Nancrede said that in listening to Dr. Welch's valuable paper he was struck by the almost total ignoring of the constitutional condition of the patient as influencing the chances of erysipelas, etc. He, in common with other surgeons, had, for the period of time within which are comprised most of the series of bad results recorded by Dr. Welch, an unusual number of cases of erysipelas and its congeners, the majority of operation cases acting in a very unusual manner. This, the speaker thought, was explainable on various grounds not necessary to enter into now at

large, chiefly innutrition and bad hygienic surroundings, induced by straitened circumstances. He then instanced several cases in point. In one humanized virus had been used in a large number of patients, and in the only case where reckless exposure was incurred a sharp attack of erysipelas ensued, with an extremely ugly-looking arm. In another instance, where the regular course had been run, local irritation from scratching had been permitted, resulting in a markedly erysipelatous and bad-looking arm. In neither case was the virus at fault; in both the patients belonged to the wealthy upper classes, and in both an extraneous cause produced the result. The speaker wished to make it clear that he fully recognized the danger of carelessness in vaccinating, and heartily indorsed the paper of the evening, yet he could not believe that all the alleged bad results following vaccination were due to only one cause,—viz., bad virus.

Dr. W. T. Taylor had seen a few cases of the strawberry vesicle, but they had invariably resulted from bovine and never from humanized virus. He had repeatedly failed with the ivory points and quills, which were purchased from different druggists, often using from four to six points on the same patient before succeeding in obtaining a true vaccine vesicle. They were probably stale, although the druggists said they were fresh, yet they could not tell when they were obtained from the heifer.

During the last few months he had returned to the use of humanized virus, and had generally obtained a true vaccine sore, so that he believed the bovine virus was in many cases the cause of the difficulties now encountered.

Dr. Leffmann said that although physicians often spoke of "reliable druggists," it was his experience that very few druggists could be depended upon in matters of this kind, and some doubtless sold vaccine matter believing it to be good, but having no positive information about it, others sold it knowing its inferior quality. He wished to ask Dr. Welch if any facts existed to show that impure virus was more virulent in cases in which it produced true vaccination than in cases in which it failed to do so; in other words, would the fact of the virus "taking" make any foreign matter more active?

Dr. Welch said that he had in a former paper (Transactions of the Philadelphia County Medical Society, vol. iii.) discussed the subject of the strawberry—or, as he called it, red raspberry—vesicle, and had then pointed out that it had no protective value. This spurious result, following only the use of some form of bovine virus, is not new. It was fully described by a writer who lived and wrote in the days of Jenner. In the present paper he had said at the outset that conditions of the system might, in rare instances, affect the course of the vaccine vesicle, but they would not account for the effects under discussion. The ulcerated and erysipelatous conditions described were doubtless due to bad virus. His experience at the Municipal Hospital had amply shown that vaccination in persons of broken constitution is not followed by such bad results. He had repeatedly vaccinated children of the worst physical condition and in most unfavorable states of general health, even actively diseased, and had never seen from pure virus such results as are detailed in the paper. In answer to Dr. Leffmann, he would say this, that the Westford cases showed that decomposed matter which had been devoid of true and active vaccine lymph had caused most violent action.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, MAY 25, 1882.

The PRESIDENT, DR. S. W. GROSS, in the chair.

Cancer of mammary gland of dog, with metastasis to liver and lymphatic glands. Exhibited by Dr. H. F. FORMAD.

AN old female rat-dog, about two years ago, showed a circumscribed induration in one of the mammary glands, of the size of a walnut. This subsequently proved to be a permanent tumor, increasing very slowly in size, and causing the animal to suffer pain, at times intense. One year ago, when I saw it first, the tumor was of the size of a hen's egg, and painful on pressure. There was also involvement of the axillary glands, which were large and nodulated. I did not see the dog again until a year later, when it died and was kindly sent to me by Dr. Keys.

Autopsy.—The animal was greatly emaciated. The mammary tumor had reached the size of a large orange, was encapsulated, round and flat in shape, hard, skin movable over tumor. All over the abdomen and chest there were seen about twenty secondary tumor-nodes, varying in size from a pea to a hazel-nut. The axillary glands were nodular and greatly enlarged through infiltration by the new growths. Several secondary nodes of the growths were found in the liver. There was also a remarkable enlargement of the thyroid gland, on section proving an aneurismal goitre. Microscopic examination of the mammary tumor and of the secondary deposits showed scirrhous cancer.

Dr. S. W. GROSS remarked that if this growth was truly carcinomatous it certainly did not resemble the same neoplasm in man, as it was clearly circumscribed by a distinct capsule.

Dr. TYSON was a little doubtful whether it could be really carcinoma, even with the microscopic appearances described, since macroscopically the growth differed entirely from

human carcinoma, as it did not infiltrate the surrounding tissues.

Lesions of typhoid fever; small circumscribed sphacelus involving all the coats of the bowel in the centre of an ulcerated patch of Peyer. Presented by Dr. J. H. MUSSER.

The specimen was derived from a young lady, who died of exhaustion at the end of the twenty-fifth day. The case was one characterized by constant high temperature,—105° Fahr. being noted in the *morning* of the twelfth day,—intense headache, and active delirium from the start. The temperature was 104.1° in the evening, twenty-four hours before death, and seemed to be as high almost up to the moment of death.

In the delirium there was constant talking, crying, and even screaming, to which was added, towards the close of the illness, troublesome cough, so that it was thought that there might be miliary tuberculosis and meningitis; but at the autopsy, made twenty-four hours after death, no lesions were found in the brain or lungs, not even a diminished transparency of the pia mater, nor the slightest effusion into the ventricles, while the sinuses of the dura mater appeared somewhat turgid with blood. Many of the Peyer's patches in the upper part of the ileum appeared to have nearly healed, but in the lower part were two large unhealed ulcers, in the centre of one of which was an oval, opaque, white patch, presenting the same appearance when viewed from the peritoneal or from the mucous side. It was about four lines in its longer diameter and three lines in its shorter. On *touching* it with the end of the little finger, it loosened from its peripheral attachment at that point with the greatest readiness, and there can be no doubt that, had she lived twenty-four hours longer, the little sphacelated piece would have dropped out and death taken place from peritonitis.

Acute hydrocephalus; acute Bright's disease in infancy; death from œdema of lungs. Exhibited by Dr. J. H. MUSSER.

The infant, a male, 3 months old, from whom the specimens were removed, was brought to my notice as a case of acute hydrocephalus. He had had a fall three weeks previously. After the fourth day succeeding the fall, the mother noticed the head gradually increasing in size, without fever or any evidence of meningeal irritation save the utterance of short cries in the midst of his sleep, occasional vomiting, and a tendency to stupor. He nursed well, and his bowels were regular.

At the time of the visit the head was greatly enlarged, measuring three inches from auditory meatus to meatus, and being nineteen inches in circumference. The scalp was tense, the hair rather thin, the veins enlarged, the fontanels and sutures widely distended, so that fluctuation was manifest. The axis of the eyes looked downward; there was slight internal strabismus. The child was as bright as infants of his age, and was well nourished.

The first visit was made on the 17th of March, 1882. From thence until death no special cerebral symptoms developed. The "cry" and the vomiting continued, the latter but twice daily. On the 24th of April he was brought to me with general anasarca. It had been of three days' duration. The urine was scanty, and it was with difficulty that two drachms were obtained. It was three-fourths albumen, and contained numerous hyaline and pale granular casts. The anasarca increased, and death took place in seven days, from œdema of the lungs, or about nine weeks after the fall.

Autopsy, twenty-four hours after death.—Rigor mortis; general œdema. Brain and kidneys only examined. Membranes of base adherent, thickened, and opaque, with not very recent lymph in the fissures. Lining membrane of ventricles granular and thickened; velum matted. The ventricles contained a quart of clear fluid, in which a trace of albumen was detected; no urea or sugar. The substance of the brain was very pale; the convolutions effaced. The kidneys were enlarged, congested. The capsule was easily removed; gaped when incised. The exterior was mottled. On section, the cortical portion was much congested and swollen, of a dark-red color, with here and there punctiform hemorrhages. Microscopical examination of the kidneys showed changes which clearly indicated an acute catarrhal nephritis.

The cause of the Bright's disease was either the poison of diphtheria or scarlatina. A sister had the former disease at the time of the baby's death, while the latter disease was prevalent in the "row." The case is of interest on account of the early age of the child. I know of no record of a child so young having had acute Bright's disease.

Scirrhus of the mammary gland associated with empyema. Presented by Dr. E. T. BRUEN.

The specimens which I exhibit were taken from the body of a woman, æt. 40 years, who came under my notice at the Philadelphia Hospital about the 1st of March, 1882.

They comprise a tumor of the mammary gland about the size of a hen's egg, which proved, on microscopic examination, to be scirrhous cancer; also a portion of the pleura, showing a secondary deposit of the morbid growth. The portion of pleura is that covering the parietes beneath the attachment of the mammary gland on the left side, from which place the mammary tumor was taken. The remainder of the pleura showed the ordinary evidences of an empyema.

The history of the case exhibits these salient features. In the early part of March the subject came into the house complaining of malaise. Physical examination of the chest revealed a large pleural effusion on the left side. Paracentesis was practised, and about 110 ounces of serous fluid were withdrawn.

Subsequently the operation was practised, and the fluid withdrawn was found to be purulent. A drainage-tube was introduced, but the patient succumbed to an attack of erysipelas, after having been under treatment about two months. During the last three years of life the patient had periodical discharges of blood through the mammary gland, and afterwards, when the tumor had formed, through a point of ulceration on it. This was supposed to be a vicarious menstruation, since the hemorrhage occurred every twenty-eight days, and during the time of its continuance no menstrual flow appeared per vaginum.

The probable sequence of pathological changes in the pleura has seemed to me—1, a development of a pleurisy through the irritation of the deposit of the morbid growth upon the pleura; 2, empyema following the paracentesis. The pleural inflammation was evidently of low type, since no pain or cough or pulmonary symptoms had warned the patient of intra-thoracic trouble.

Dr. MUSSER asked whether hæmothorax was a more common accompaniment of carcinoma of the pleura than a merely serous effusion.

Dr. BRUEN replied that in the post-mortem examinations which he had made of three patients affected with carcinoma of the pleura, in all the effusion was serous. In one the effusion was due to pressure, while in the others it was evidently caused by the irritation of the foreign growth.

Dr. TYSON had nothing to offer from his own experience, but the usual statement of the books was to the effect that in carcinoma of the pleura a bloody effusion was common.

Dr. GROSS said that he had seen a number of patients with secondary carcinoma of the pleura, but in none was the consequent pleural effusion bloody.

Dr. FORMAD remarked upon the interesting point of the vicarious menstruation which had persisted for so long a time.

Dr. TYSON would like to call attention to another point of interest in this case,—viz., that the second paracentesis resulted in the withdrawal of a purulent instead of a serous fluid, as at the first tapping. It was quite common to ascribe this result to the entrance of air, but he was rather inclined to attribute it to a dyscrasic condition.

Dr. BRUEN thought that the withdrawal of a large amount of fluid took off the extra vascular pressure to such a degree as to produce a congestion, which resulted in a higher grade of action than at first, thus resulting in the formation of pus.

Dr. TYSON replied that although this was not an unreasonable hypothesis, yet it was incapable of proof. In support of it, however, he would mention the well-known fact that blood not uncommonly was found in the last-drained portions of fluid in a paracentesis pleuræ.

Dr. NANCREDE said that his colleague Dr. Starr had found by extended experience that by withdrawing on the first occasion a moderate degree of fluid, just sufficient to relieve urgent symptoms, repeated tappings could be resorted to, resulting in the complete removal of the fluid without its ever becoming purulent.

Dr. GROSS corroborated Dr. Nancrede's statement by the reported results of foreign practice.

Dr. MUSSER remarked that if the dyscrasic view were correct, it could not fail to prove a most important diagnostic point. He mentioned, in this connection, the views of Trousseau and others with regard to latent pleurisy and tubercle as affecting the nature of pleural effusions.

Rupture of the descending colon from external violence.

Dr. J. EWING MEARS exhibited the specimen, which had been removed from a patient in St. Mary's Hospital. The autopsy was made by Dr. Strittmatter, resident physician, under whose care the patient was, and who furnished the following notes of the case:

Charles F., aged 14 years and 6 months, was admitted into the surgical ward of St. Mary's Hospital, May 12, 1882. He was engaged on the third floor of a factory in carting material to and from an elevator. He was in the habit of walking backward when putting his cart on the platform of the elevator, pulling the cart after him. On this occasion, however, the elevator had ascended a story higher, and, instead of stepping on the platform, he fell down the elevator-way to the ground-floor. Whether he struck anything previous to his contact with the lower floor cannot be positively ascertained. The cart, which weighed about fifty pounds, came down with him. When the boy was first seen, the cart was lying on him. His injuries, so far as could be detected on examination, were contusions on the back and below the right ear, fracture of right tibia and fibula, and contusion of abdomen.

When brought to the hospital, he was conscious, and complained of severe pain in the lower portion of the abdomen. He spoke hurriedly and as if in great agony. The surface of his body was cold, and his forehead and face were covered with cold perspiration. His countenance had a typically pinched expression. His skin presented a waxy paleness. His pulse was small, hard, 160; respiration quick, shallow, and at times sighing and gasping. Temperature, 97.5° in axilla. Morph. sulph. gr. ¼ was administered hypodermically; brandy in ʒij doses given by the mouth every fifteen minutes. Hot bottles were applied to the extremities. In half an hour no improvement had taken place; pulse grew more feeble and rapid, respiration also more sighing and rapid. Tinct. digitalis gtt. viii and atropiæ sulph. gr. $\frac{1}{80}$ were

now given hypodermically. No perceptible change, however, followed this. His pulse grew more feeble, and the respirations still more rapid.

He became uncontrollable, tossed his arms wildly around him, heaved deep sighs, and constantly clamored for water.

He recognized his mother and sister, but was unable to speak to them. In about an hour he became quiet, began to sink very rapidly, and two hours after admission died.

During life no careful examination was made of his body, excepting his head and what could be obtained by careful inspection, on account of the shock, from which he was suffering profoundly. By this no injury of the brain could be discovered, and none was manifested by any symptom, excepting the vomiting which took place about one and a half hours after admission. On his abdomen in left lumbar and inguinal region there was evidence of contusion. The muscular tissue seemed to have been separated, and allowed considerable bulging. On light percussion this gave rise to a somewhat amphoric sound. Moderately deep percussion gave dulness. Percussion on either side gave evidence of distinct line of dulness. Fluctuation was distinct. The catheter had been passed, and about two or three ounces of clear urine came away very slowly. More could not be discovered in abdomen. His right tibia and fibula were fractured in the middle third.

Post-mortem examination revealed the following condition of the abdomen. In the left lumbar and iliac regions the skin was discolored by extravasation of blood. It was not torn. The abdomen was distinctly bulging on this side. An incision showed this to be due in part to a clot in the connective tissue between the skin and the external oblique muscle. The greater portion of this clot was found two inches internal to, and on a level with, the anterior superior spinous process of the ilium. Under this there was no separation of muscular fibres, only a bruised, infiltrated spot.

Between the external and internal oblique there was found a quantity of coagulated blood, which was not as much circumscribed as that between the integument and the external oblique. There was also more extensive bruising of the internal than of the external oblique. Between it and the transversalis muscle everything was full of clot, while the transversalis was cut through or some of the fibres were separated a short distance internal to, and on a line with, the anterior superior spine of the ilium. The parietal layer of peritoneum was separated by an effusion of blood. The whole abdominal cavity was filled with blood. The only injury discovered in the abdominal organs was the rupture of the colon about two and a half or three inches above the sigmoid flexure.

Owing to the haste in which the autopsy was made, a careful examination of the posterior wall of the pelvis was impossible. Nothing was noticed, however, on careful removal of the ruptured bowels. A small lump of hardened fæces was found in the abdomen near this rupture, and a prune-seed in the opening; several were above, one or two below.

No fracture of the pelvis could be discovered on careful examination.

Between the parietal layer of peritoneum and abdominal walls, anterior and posterior, there was abundant extravasation, so that without a careful dissection it was impossible to determine the amount of injury there.

Remarks by Dr. Mears.—It is evident from the nature of the injury sustained in this case that the bowel was ruptured by the direct violence inflicted by one of the projecting handles of the cart, which fell to the lower floor with the patient, and beneath which his body was found. It is interesting to consider to what extent the prune-seeds which were in the intestine contributed to the laceration of its walls. It is quite probable that they assisted materially, cutting the coats of the intestine with their sharp edges, as it was caught with the abdominal wall between the handle of the cart and the resisting bony wall of the pelvis. It will be noted that one was found in the opening of the upper portion of the lacerated colon.

During the two hours of his sojourn in the hospital after the accident, the symptoms indicated, in a marked manner, the existence of internal hemorrhage, in the character of the respiration, the pulse, and the temperature.

Dr. TYSON thought that the mechanism of this rupture necessitated some more or less solid body in the bowel, and that the prune-seed was the object which afforded the necessary point of resistance, as demonstrated by the persistence at certain points of the peritoneal coat, showing that the bowel had been divided by some dividing force acting *from* the lumen of the gut *outward*.

Dr. MEARS agreed substantially in the views expressed by Dr. Tyson.

Specimens from an excision of the hip-joint where death resulted from tubercular meningitis. Presented by Dr. C. B. NANCREDE.

The exhibitor said that the chief point of interest was the cause of death, which had resulted neither from the original disease nor from the operation itself, but from tubercular brain-trouble induced by the presence of a caseous focus, aided by an exhausting disease. He had removed the specimens last February from a delicate little girl, aged about 4 years, an inmate of St. Christopher's Hospital for Children. So-called pathological luxation had occurred, accompanied by abscesses, sinuses, etc. The child, as is so common, seemed to have received a new lease of

life consequent upon the removal of the diseased bone, gaining flesh and strength for some two weeks, when the appearance of the wound altered, and the child's temper and general condition became very variable, until well-marked meningitic symptoms set in, terminating life nearly five weeks after the operation.

THURSDAY EVENING, JUNE 8, 1882.

The PRESIDENT, Dr. S. W. GROSS, in the chair.

Specimens from a case of uræmia following the introduction of the split bougie. Presented by Dr. J. M. BARTON.

MR. H.; æt. 32 years; occupation, merchant; has enjoyed good health for a number of years. Had an attack of gonorrhœa three months ago, which rapidly became gleety. He was under the care of different physicians, the last of whom used the bougie as a method of treatment. The solid instrument was used five or six times during the last month, and the split bougie, which is increased in size after introduction (known in this city as the invention of Dr. S. W. Gross), was used about as frequently. It was used for the last time on Saturday, June 3. It was then dilated to its full extent, without meeting with any resistance. On withdrawing the instrument, it was followed by a gush of blood, and each act of urination on both that day and the next was followed by a gush of blood, though the patient was able to, and did, go out, contrary to the advice of his physician. The blood lost during the two days was estimated at about a pint. On Monday morning the patient had a decided chill, followed by fever. On Monday afternoon, when I saw him for the first time, he micturated in my presence; the first four ounces of urine being clear, then one drachm of blood, then another ounce of urine, and then one ounce of blood, during the passage of which there was considerable tenesmus and pain. This was followed, about half an hour afterwards, by a severe chill, lasting an hour. On the following morning he appeared somewhat stupid and heavy, though no morphia had been used for a number of hours. No urine had been passed since six o'clock the previous evening, and on percussing over the bladder there appeared to be little or none in it. During the day the stupor increased, slight twitching of the tendons appeared, and, though active purges, diaphoretics, etc., were used, the uræmic coma increased, and proved fatal at 11.30 Tuesday night, three days after the introduction of the instrument.

The post-mortem, which was made this morning, gave no evidences of disease in any other organ than in the specimens here presented,—viz., the urethra, bladder, and kidneys. The bladder contained about two fluidounces of dark-colored but translucent urine. The mucous membrane of the urethra was ruptured about three inches below the neck of the bladder. The rest of the urethra, as well as the bladder, appears healthy. The kidneys are both deeply congested, and bled freely on section.

The question of previous chronic disease of the kidney was discussed, and the specimen referred to the Committee on Morbid Growths.

Dr. GROSS had never met with a similar instance in his private practice, but had seen several cases in his hospital wards where death had resulted. One patient proved to have suffered from a rare affection,—viz., tubercle of the bladder, prostate gland, and urethra. He had also *granular kidneys*. Another case had also been operated on for epithelioma of the penis, had a stricture, and also *granular kidneys*. In another instance, the simple introduction of a bougie resulted fatally. In all such cases where death resulted from the slighter and ordinarily safe operations upon the urethra, he believed that there was always concomitant kidney-disease. There was also another point of interest concerning this specimen,—viz., that there were one or two spots in the course of the stricture where connecting bands of tissue remained, which showed, as his experience proved, that divulsion oftentimes failed to divide the stricture completely. For this reason, although at first an advocate for divulsion, he had abandoned it for many years in favor of internal division of the stricture by means of a cutting instrument.

Dr. NANCREDE related a case where the gentle introduction of a sound only a few sizes larger than usual into the strictured urethra of a patient suffering from glycosuria resulted fatally in about thirty-six hours.

Specimens from an excision of the hip-joint. Presented by Dr. C. B. NANCREDE.

These were removed in the middle of May of this year, from a girl *æt. circa* 6½ years, a patient in St. Christopher's Hospital for Children. She had suffered from the disease for over two years, had been apparently nearly cured, but had relapsed, when a large abscess of the thigh had formed, and had been opened. Great exhaustion ensued, with profuse diarrhœa and hectic, followed by the pointing of a large intra-pelvic abscess, which opened spontaneously three days before the operation. The case was a remarkably unpromising one, the acetabulum being perforated, and immense purulent collections in the thigh communicated with the intra-pelvic abscess. Notwithstanding, the patient rapidly improved, and when last seen (some weeks after the presentation of the original notes) both the operation wound and that left by the sloughing of the skin over the pelvic abscess had nearly closed.

THURSDAY EVENING, JUNE 22, 1882.

The PRESIDENT, Dr. S. W. GROSS, in the chair.

Epithelioma of the penis. Presented by Dr. FERDINAND H. GROSS.

THE specimen I have to present is not of any novel interest to most of the members of the Society, but I thought there might be some who would like to examine it.

J., aged 42, laborer, married, born in Ireland. About a year and seven months ago he noticed for the first time a dry whitish scab on the under surface of the penis, near the frænum. He did not apply to a physician until about five months ago, when the scab, which was then somewhat sore, was cauterized, and a cure promised in three months. The part which was cauterized sloughed away, leaving an ulcer which did not heal, but gradually increased in size. From the early part of April last, about two months before I amputated the penis, he began to apply at irregular times to the dispensary of the German Hospital, and was treated for a short time as an out-patient. My attention was first called to the case a week or two later by the resident surgeon. The patient himself ignorantly believed his disease to be of a syphilitic character, and this view appears to have been adopted by the physician whom he consulted. At the time I saw the case, the ulceration had made deep inroads upon the organ, involving the glans penis, prepuce, and integument, and other structures immediately behind. There existed a considerable mass of neoplastic tissue and a fistulous opening into the urethra. The pain was of a darting kind, and the part was especially painful on being touched. I judged the disease to be of a cancerous nature, and at my request the resident, Dr. L. D. Brose, removed several small portions for microscopical examination. The diagnosis having been confirmed, I had the patient admitted into the house, and amputated the penis on the 10th instant.

The specimen, as here presented, measures four inches in length, and includes about three-fourths of an inch of the organ beyond the visible diseased structure. In its greatest circumference, just behind the corona glandis, it measures seven inches. Beyond this point several small nodules in the integument are noticed. Except that one gland in the right groin appears very slightly enlarged, which the patient says has been so a long time, nothing is noticeable about the neighboring lymphatics, and they do not appear to be involved.

I am indebted to my resident, Dr. Brose, for the microscopical examination, and append his note:

"*Microscopical appearances.*—Squamous epithelioma. The sections examined were made up of large flat cells, containing one or more nuclei, which were very distinctly seen under a power of three hundred diameters. The cells were seen to be arranged in the form of cones, which penetrated to various depths a vascular connective-tissue stroma. In some of the cylinders the epithelium had been arranged concentrically, forming the characteristic 'pearly bodies.' The papillæ of the skin were much hypertrophied, and had undergone proliferation inwardly."

Up to the time of writing this report, ten days after the operation, the patient continues to do well in every respect.

Dr. S. W. GROSS did not think that the disease had pursued a very rapid course, as a whole, but undoubtedly it latterly had progressed with unusual rapidity, probably owing to the irritation of cauterization, etc. He had lately seen a much more acute case at his clinic at the Jefferson Hospital College, where a man 42 years of age had applied with an extensive epithelioma of the penis complicated with an enlarged mass of glands in the groin of the size of a double fist. All this, according to the repeated statements of the patient, had appeared within *six months.*

Rupture of the spleen. Presented by Dr. FERDINAND H. GROSS.

J. G., a heavy, muscular American, aged 38, fell from, and was run over by, an ash-cart, at noon, June 16, 1882, the wheel passing over his body from the left side about the region of the eighth rib. He was carried to the German Hospital, where he was taken charge of by my resident, Dr. L. D. Brose, who found the patient in a profuse perspiration and complaining mainly of pain in his left side. On removing the clothing, no external discoloration or visible marks of contusion were discovered; but by careful palpation the eighth and ninth ribs of the left side were found to be fractured. The right clavicle, at the junction of its sternal with its middle third, was also fractured. Dr. Brose applied adhesion strips to the left half of the chest, and for the fractured right clavicle a Velpeau bandage. During the first night the patient vomited food. I did not see him until morning. In the course of the day some pain was complained of in the right side from the Velpeau bandage, which was directed to be removed. This fracture having been adjusted by means less constricting to the chest, the patient rested somewhat easier, but his countenance still retained the expression of great anxiety and suffering, and he complained much of thirst. Cracked ice was given, and occasionally two teaspoonfuls of liquor morphiæ sulphatis were administered. His diet consisted of milk with lime-water. In the evening of the 17th the temperature was $100\frac{4}{5}°$; pulse, 112. On the morning of the 18th the patient was reported as having vomited blood during the night; he still complained of great thirst, and was bathed in a cold sweat. The abdomen had become tympanitic and painful. Morphia and atropia

were administered hypodermically, but vomiting was only partially checked by this and other remedies. When it recurred later in the day, a dark, grumous matter, which was ascertained to be altered blood, was thrown up. A passage from the bowels, not containing any blood, was effected by an enema. Indications of serious internal injury, which were suspected on the previous day, were now unmistakable, and the spleen was believed to be ruptured. The morning temperature on the 18th had lowered to 100°, while the pulse had risen to 132. The bad symptoms remained uncontrolled by remedies applied internally and externally. The patient's mind remained clear until about fifteen minutes before death, when the temperature rose to 104⅘°. He died at 5 P.M.

Autopsy.—Found an extravasation around the seat of fracture of the clavicle, and a similar extravasation about the fracture of the ribs. Heart and lungs normal, except a slight congestion of the latter. In the left pleural cavity there was a small effusion of bloody fluid. The intestines were greatly distended by gas, and the abdominal cavity contained a large quantity of blood. The spleen, which is here presented, shows a large rent in its upper portion, and is heavy from infiltrated and coagulated blood. Stomach and liver normal.

REVIEWS AND BOOK NOTICES.

DISEASES OF THE EAR IN CHILDREN. By ANTON VON TROELTSCH, M.D., Professor in the University of Würzburg. Translated by J. ORNE GREEN, A.M., M.D., Aural Surgeon, Boston City Hospital, etc. (From Gerhardt's "Handbuch der Kinderkrankheiten.") New York, Wm. Wood & Co. 8vo, pp. 165. 1882.

Prof. von Troeltsch's monograph is perhaps unequalled in its graphic and succinct account of the etiology and pathology of ear-diseases in children. Its usefulness as a guide to the general practitioner cannot be overestimated, so great would it be if read and followed. "It must become," says the author, "the duty of every qualified practitioner, in a large number of general diseases, especially with children, to *inform himself* of the condition and powers of the ear, and also to direct the attention of the attendants to this organ, *without waiting* for urgent symptoms to *proclaim themselves*." (The italics are ours.) "In all violent inflammations of the nasal and pharyngeal mucous membranes, the frequency of a simultaneous disease of the mucosa of the ear should be borne in mind, especially in scarlet fever and smallpox;" for in the latter disease, according to the investigations of the late and lamented Wendt, the ear is affected in ninety-eight per cent. of all cases. Again, "in diphtheria and croup, the ear should never be forgotten, as experience shows both that these affections very frequently extend to this organ, and also that the aural inflammations accompanying them often assume an unusually serious and destructive character." The fatal results so frequently following ear-diseases can readily be comprehended upon reflecting that the blood-vessels of the soft parts of the external and middle ear are connected intimately with the circulation of the tissue of the temporal bone, and the latter with the vascular system of the dura mater; also that the blood-vessels of these two regions—the ear and the brain—are directly connected through the diploëtic veins of the temporal, which discharge into the sinuses of the dura mater. If space permitted, we would like to let this book speak for itself, and instruct the reader by thus quoting from it. The treatment throughout the book is a little antiquated, which is to be accounted for, we judge, by Von Troeltsch's increasing years, and his apparent unwillingness to be guided by any experience garnered by other and younger men within the last ten or fifteen years. The translator has done his work well, and has not given us broken English to read, as most translators do, especially in magazines. The reader of Dr. Green's English translation is not obliged to understand German in order to make out the text before him. The curious expressions "active action" (p. 61) and "feeling of the mucous membrane" (p. 85) must be typographical errors, and will doubtless disappear in a second edition, for which we trust there will soon be a call. X.

GLEANINGS FROM EXCHANGES.

TREATMENT OF MALIGNANT PUSTULE BY EXCISION.—Dr. Davies Colley, of Guy's Hospital, recently presented a communication to the Royal Medical and Chirurgical Society, based upon the notes of seventeen cases of malignant pustule, illustrated by microscopic sections of the lesion showing abundant bacilli anthracis in the corium and surrounding the hair-follicles. The points specially considered worthy of attention are the following: 1. Malignant pustule or charbon is not infrequent among tanners and wharf-laborers who have to handle foreign hides and fleeces. 2. It has not yet been observed at Guy's Hospital as a primary disease in the viscera or in the form of malignant œdema of the integument. 3. It has been seen only on exposed parts of the body,—*e.g.*, the face, the neck, and the arms,—the most dangerous position being the neck, probably from its vicinity to the larynx. 4. The seventeen cases were between the ages of eleven and forty-seven, and the majority were young adults of the male sex. 5. Twelve out of seventeen cases occurred in September and the four following months. 6. The

disease may be confounded with malignant facial carbuncle, poisoned wounds, and primary chancres of the face. The chief points to notice are the painless character of the eschar, its vesicular margin and slightly depressed, dry, blackish centre. The nature of the disease is not infrequently overlooked, and its symptoms have been attributed to such causes as the bite of a mosquito, or the absorption of arsenic through an abrasion. 7. It should be treated at once by excision or free cauterization. In fifteen of the cases in which excision was practised, eight were already suffering from constitutional symptoms, and twelve had considerable œdema or glandular enlargement, yet all recovered. In the remaining two the symptoms were so serious when they were admitted that it was believed that operation would not avert a fatal result, and excision was not attempted: these were the only cases that died.—*Medical Times and Gazette.*

AMPUTATION OF THE SCROTUM FOR ELEPHANTIASIS.—A remarkable series of one hundred and thirty-six cases of elephantiasis scroti treated by amputation is reported in the *Glasgow Medical Journal* by Dr. George A. Turner, church missionary to the Samoans in the South Pacific during twelve years. In performing the operation he used a clamp of iron or brass, measuring, when opened to its widest extent, 5 by 3½ inches, but sometimes a larger size (7 by 3½ inches) was required. Great difficulty was experienced in managing the tumor, which was overcome by passing a board beneath it, and stationing an assistant at each end to support it; sometimes large hooks were used; finally a special operating-table was constructed. The steps of the operation are described by the reporter in the following words:

"The patient should be placed on the operating-table at least half an hour before operation, and lie quietly with the tumor raised considerably above the level of the body, that it may empty itself as much as possible of its blood. The upper bar having been removed, the clamp is then applied by raising the tumor and passing the screws up from behind on either side of its neck, the lower bar being held as far back towards the perineum as possible. The tumor is then turned down and the upper bar put on and fixed in its place by the thumb-screws. These, however, at this stage, should only be applied to keep the clamp in position, and should not in any way interfere with the circulation in the tumor. Before applying the clamp it is always well to make sure that no hernia exists, or, if it does, that it has been wholly reduced.

"The clamp being in position, chloroform is administered, the tumor still being kept elevated. The clamp is rapidly and firmly screwed down on both sides simultaneously. The tumor should now be turned upwards to expose its posterior surface. If it be small, it may simply be turned upwards on the abdomen, its weight being supported by the hand of an assistant. In the case of large tumors, some other contrivance is necessary; and I have been in the habit of using a couple of large hooks, like shark-hooks, attached to a block and tackle fixed to the ceiling. These hooks are passed through the leathery skin at the lower part of the tumor, and by means of the tackle the whole tumor is raised so as thoroughly to bring into view its posterior surface. A rounded skin-flap is then raised from the posterior part of the neck of the tumor, the horns of the incision being at either end of the lower bar of the clamp. This flap should be about one and one-half inches long in its centre, and should be dissected up close to the clamp. The tumor is now lowered, and allowed to fall forward, so as to rest upon the leaf of the table. To enable this to be done, the patient should be drawn well down to the end of the table, and his legs from the knees downwards be made to hang down, one on each side of the leaf, and be fastened to the legs of the table.

"Either two or three skin-flaps should now be raised from the anterior surface of the tumor. If the penis be superficial, and not covered up by hypertrophied tissue, it will be sufficient to raise a right and left rounded flap, having their outer ends at the right and left end respectively of the upper bar of the clamp, and meeting in the centre under the penis. Where the penis is buried in the mass of the tumor, as it often is, in addition to the right and left flaps just mentioned, a third should be made between the two; and, as this central flap is made for the purpose of affording a new covering for the penis, care should be taken that it be formed of sufficient width to permit of its encircling that organ without any undue straining. The length of these flaps must be regulated by the probable bulk of the parts they will have to cover after the operation is completed. After dissecting up these flaps, the penis is next dissected out. This is sometimes a matter of no little difficulty, on account of the mass of hypertrophied tissue in which it lies buried. The best method is to start from the opening from which the urine escapes, which, in some cases, is found at the lowest part of the tumor, and from this boldly cutting upwards to expose the glans penis. This having been found, it is not difficult to dissect out the penis, which should then be held up on the abdomen, along with the anterior flaps, by an assistant. The next step is to find the testicles. These also, especially in the larger cases, are deeply buried in the substance of the tumor. The easiest and quickest way of finding these is to cut diagonally across the face of the tumor, first on the one side and then on the other, and, partly by the use of the knife and partly by tearing the hypertrophied connective tissue with the fingers, they are soon discovered.

They should then be dissected up with their cords, and held well out of the way. This having been done, a very few strokes of the knife will sever all the remaining tissues constituting the neck of the tumor, and the mass is removed. The testicles should next be examined. In some, even of the largest cases, they are found to be quite healthy, and almost, if not quite, of natural size. In the majority of cases, however, there is more or less hydrocele on one or both sides, generally associated with very considerable thickening of the tunica vaginalis. I have always treated these hydroceles by freely incising them, and, where there was much thickening of the sac, excising a very considerable portion of it. In some cases, where there was excessive hypertrophy of the sac, I have removed the testicle on that side. The next step is to tie all vessels which are seen in the stump. In all my operations I have used carbolized catgut ligatures, which were cut close off and left to be absorbed. The next thing is slowly to unscrew the clamp, being on the watch to tie anything that bleeds. At this stage of the operation, when sometimes a number of vessels show themselves simultaneously, I have found great advantage from the use of Dieffenbach's small self-holding forceps, which, while taking up very little room, control the hemorrhage efficiently, and give the operator time to tie the vessels one after another. In most of the larger cases there are usually some twenty to thirty, or even more, vessels which require ligature.

"If it should happen in loosening the clamp, as has occurred to me on two or three occasions, that some considerable vessel, which has at first been overlooked, slips behind it and bleeds freely, the best plan is at once to unscrew the clamp and throw it off, trusting to speed in securing all bleeding points. Too great care cannot be taken to tie every point from which it seems possible that bleeding may occur, as neglect of this precaution may give rise to very troublesome hemorrhage some hours afterwards. After all the vessels have been ligatured, the flaps are brought into position, and united with wire or catgut sutures. It is well to put a drainage-tube on each side behind the testicles. A 1-20 aqueous solution of carbolic acid was freely applied before the wound was closed, and antiseptic dressings were invariably employed.

"Of the one hundred and thirty-six operations already mentioned, the two largest were for the removal of the tumors, which weighed almost exactly eighty pounds. They were weighed about an hour after removal, and after a good deal of blood and fluid had drained away. In the case of A., the tumor had been years in growing. When he stood up it reached almost down to the ground, and measured forty inches in circumference. It will be observed that his limbs were all enlarged from the same disease. At the time the photograph was taken, his right calf measured thirty-six inches in circumference, and the left only an inch or two less. In this case the testicles were both of natural size,—no hydrocele,—and they, with the penis, were preserved. The operation itself—formation of flaps, dissection of the organs out from the mass, and removal of the tumor—was completed in twelve minutes. The wound healed very rapidly. In the case of B., the tumor, which also was of several years' growth, hung down nearly to the ankles, and measured fifty-four inches in circumference. The elephantiasis in this case was almost entirely confined to the scrotum, the left leg and foot being the only other part affected, and that only slightly. In this case there was hydrocele on both sides; the penis and right testicle were preserved, the left testicle being removed.

"Of the other tumors removed, one was over fifty pounds, three were over forty pounds, and the rest were of various sizes, from about seven or eight pounds up to thirty-seven pounds. In none of the cases was the penis removed, in none were both testicles removed, and in the great majority all the organs were preserved. In one case, in which the tumor was over twenty pounds in weight, the wound healed almost entirely by first intention, and patient walked home, a distance of several miles, within a fortnight after operation. December 22, 1874, I operated on four of these cases, on the 23d on one, and on the 25th on one; and on January 26 the last of the six went home well.

"Of the one hundred and thirty-six cases, I lost only two, on the tenth and eleventh day after operation respectively. In the one case obstinate diarrhœa was the cause of death, and in the other fever. In these cases the tumors weighed about ten and fifteen pounds respectively. In two or three other cases, however, the patients were brought very low by diarrhœa or dysentery, although they eventually recovered. In one or two cases only was there partial sloughing of the anterior flaps.

"The success which attended these operations I attribute mainly to four things: 1, the completeness with which hemorrhage is controlled by the clamp; 2, the covering of the wound with skin-flaps; 3, the use of antiseptic dressings; and, 4, the fine physique and coolness and powers of endurance of the Samoans.

"In two of my operations I made use of Esmarch's tubing, and it answered fairly well; but I prefer the clamp as the more effective method. In these cases, after the removal of the tumor, the elastic tube has a great tendency to slip off, and was only retained in its position with difficulty; but my greatest objection to it is that when it is employed the skin is drawn into folds, and the operation thereby rendered much more difficult. When a clamp is used, on the other hand, we have

a flattened surface both anteriorly and posteriorly, which renders the operation very much more easy. Another great advantage which is gained from the use of the clamp is that, after the removal of the tumor, it is easy to slacken the screws, half a turn at a time, so as to cause any vessels which have been overlooked to show themselves, the bleeding being easily controlled by tightening them up again.

"The practice of forming flaps of skin for covering the wound has been objected to by some as tending to cause a recurrence of the disease. Sir Joseph Fayrer, for example, says, 'No attempt should be made to preserve flaps of integument, which are unnecessary, and almost certain to be the seat of recurrence of the disease. In from two to four months all is closed in by cicatrix tissue, which gradually perfects itself, and is not liable to become the seat of recurrence of the disease.' But in the great majority of cases it will be found that the skin covering the neck of the tumor is healthy. It is skin which has been stretched and drawn down by the weight of the tumor from the perineum and pubes. Surely it is not contended that the state of the skin is the exciting cause of the disease; and why the preserving of a few inches of it more or less should increase the danger of its recurrence I do not understand. Besides, if it be possible to cover up the necessarily large wound by skin-flaps, its more rapid healing is insured, and the danger of evil results thereby lessened. The formation of a posterior flap as the first step of the operation is, I think, of great advantage. It is done at this stage much more easily than if left to the last, when the bulk of the tumor, severed from its attachments anteriorly, would seriously inconvenience the operator. As already stated, it should be made short, so as to have the line of union well behind, in order to favor the escape of discharges from the wound. In some cases, where I feared retention of fluids and bagging of the posterior flap, I have, when closing the wound, divided it in the centre, so as to insure a thoroughly dependent opening.

"In describing the operation I have spoken of chloroform, but in almost all my cases I used the bichloride of methylene. I first used this anæsthetic on account of statements of Dr. Richardson, Mr. Morgan, and others, who claim that it is 'less dangerous than chloroform,' that 'its action is more rapid,' that 'recovery is more prompt,' and that 'if dangerous symptoms show themselves during its administration, they subside sooner on discontinuing the inhalation.' It will be easily understood that these advantages, if really possessed by it, were of the greatest moment to me, considering that, with very few exceptions, my operations were all performed with only the help of untrained assistants. I have been thoroughly satisfied with it, and never had any difficulty in connection with its administration, though this was in almost every case done only by a native."

ACUTE IDIOPATHIC ARTERITIS—GANGRENE OF EXTREMITIES—DEATH.—Dr. Strahan reports the following interesting instance of a rare disease:

"E. G., a female patient, aged forty-nine years, under treatment for relapsing mania, was on February 4 suffering from an attack of acute maniacal excitement, the usual sedative remedies being administered. 5th. Condition unchanged; violent and destructive, requiring constant attention of two nurses. Was walked round court two hours between nurses. On coming in, patient was, the nurse said, 'taken very cold and trembled.' Patient was put to bed between blankets, and when seen by the medical officer, a very short time after, was in much the same condition as in the morning,—viz., restless and excited, striking any one within reach, shouting, tearing her bedclothing, etc. Ordered a draught containing forty grains of bromide of potassium and twenty grains of chloral hydrate. 6th. Had a restless but fairly quiet night. She did not, as on former occasions, attempt to leave the bed. Still in a state of acute active mania. The right leg was now discovered to be quite cold up to the knee, the skin being pale and mottled with purple. Volition and sensation lost. No pulsation could be detected in the popliteal space. The left foot and half-way up the tibia were in a similar condition. In the left leg pulsations could be felt in the popliteal artery, but nowhere below that situation. The left hand was markedly colder than the right, and no radial nor ulnar pulse could be felt; this hand she was using vigorously. Pulse at right wrist 96; small and weak. Temperature in right axilla 100.2°. The chest was carefully examined stethoscopically, with negative result. The limbs were wrapped in soft flannel. Opium ordered in grain doses every three hours, and milk, beef-tea, and small quantities of whiskey. 5 P.M.: Pulse 100; temperature 100°. State of right leg unchanged. Heat now present in left extremity as far down as the ankle, and sole of foot of a dark purple. Temperature of left hand still very much below that of right, and looks pale. No pulsation can be felt below the axillary artery, and there are signs of pain on pressure over the course of the brachial artery, but no swelling or discoloration. She uses the left arm freely, and throws it about much more than the right, which is in all respects normal. 7th. Had a restless night, tossing about as if in pain, but not speaking. Took some food and alcohol. Temperature this morning in axillæ 100.6°; pulse 140, thin and feeble. Left arm, which was tossed about much during the night, seems warmer to touch than it was, but is still below 95°, the lowest the thermometers (two) used register. Pulse can now be felt

at the elbow, and not below that point. Hand looks anæmic beside the other. No discoloration. Right leg darker in color, upper surface of foot very white, toes purple. Line of demarcation seems to be forming immediately below the patella. Severe pain, causing the patient to cry out, on pressure being made over the femoral artery as it passes from Hunter's canal to the popliteal space. No pain above this part, no pulse in popliteal. Left foot, cold as before; upper surface of foot deep purple, toes white. Pulsations easily felt in popliteal in this limb, but nowhere below that. Severe pain on moving either leg. Bowels acting. 5 P.M.: Little change in general condition. Has not spoken since morning. Takes nourishment in minute quantities. She is fairly under the influence of the opium. Has lain in a restless troubled sleep the greater part of the day. Pulse 144, fluttering. Sordes on teeth; eyes becoming sunken and glazed. Right leg as described this morning, except that the line of demarcation is better defined. Pain over femoral as before, and confined to the same part,—viz., the first three inches above the knee-joint. Left foot appears as in the morning, but now there is severe pain on pressure over the anterior tibial artery in its lower half. Toes of both feet flexed and freely movable. Left hand and forearm remain in the condition described this morning. —8th. She passed a restless night, gradually sank, and died at noon.

"*Autopsy.*—Twenty-six hours after death an examination was made of the body. The result is summed up in the following brief notes. Cadaver that of a well-built, well-nourished woman of about fifty. Some slight ecchymoses on arms and forearms. Left leg and foot, from knee down, of a deep purple mottled with white. Right foot purple, with well-defined limit just below the ankle-joint. Palm of left hand slightly purple. Rigor mortis well marked in all parts of the body, except in the parts of lower limbs mentioned above as being discolored, in which the joints were perfectly flexible and the muscles soft and flabby. Head: The dura mater was somewhat congested, as was also the pia mater, and there was some milky opacity of the arachnoid over the apex of the hemispheres. The brain weighed 54½ ounces, and had an abnormally plentiful show of puncta vascularæ. In all other respects the contents of this cavity appeared healthy to the naked eye. There were no signs of atheroma in the arteries at the base. Chest: Lungs emphysematous to a large extent in their anterior and inferior borders. No fluid in pericardium. The heart weighed 10½ ounces, all valves competent. The cardiac muscle was fairly firm and appeared healthy, as did also its lining membrane, which was in all parts smooth and glistening. Right auricle almost completely filled by a yellow, fatty-looking clot. Right ventricle contained a much smaller clot of like character and some blood, while the left side of the heart was gorged with black fluid blood. The aorta, which was full of blood similar to that in the left heart, appeared perfectly healthy. Abdomen: Spleen rather soft and friable and dark-colored; liver congested; all the other organs appeared normal except the uterus, which was retroflexed. The right femoral artery at the seat of pain during life was cut down upon and removed for about three inches of its extent. It was easily found, as it was hard and round, almost as though the body had been injected for dissection. Black, tarry blood flowed slowly from the upper end of this section of artery, while the lower end of it was filled by a black plug of coagulated blood, which kept its form on being squeezed out. The wall of the artery was highly injected, had lost to a great extent its natural elasticity, was thickened, and had a harsh leathery feel. On its being slit up, its lining membrane was found to have lost the smooth, glistening surface; it was rough, of dark-red color, and covered, especially in its lower half, with hard nodules of black coagulated blood, which would not wash off, but remained firmly adherent to its lining membrane. As permission to examine the body was only obtained after it had been duly promised that nothing would be done beyond that necessary to ascertain the cause of death, none of the vessels in the other affected limbs were examined."—*Lancet*, July 15.

EXTIRPATION OF A CANCEROUS UTERUS.—Dr. A. N. Solovioff, of Moscow, reports (*London Medical Record;* from *Mediz. Obozr.*, January, 1882) his third case of extirpation of the uterus for carcinoma of the cervix, in a patient aged 53. The operation was performed through the vagina. The uterus having been brought down by means of Museux's forceps, the cervix was separated from the surrounding parts, and then Douglas's pouch was laid open. The anterior peritoneal cul-de-sac was not opened; the operator cut off, by means of scissors, the whole of the mucous membrane, and the greater part of the muscular wall, leaving a thin stratum of the latter, with the serous covering *in situ*. The broad ligaments were then divided, some vessels were tied, and a drainage-apparatus (four Nélaton's flexible catheters sewed together) was introduced into the opening in Douglas's pouch. On the seventh day after the operation the drainage-tube was removed. On the fifteenth day the patient was up. Her recovery was rather slow. This is the second time the author has operated through the vagina, which method he prefers to the high (or laparotomic) operation, finding the low extirpation technically easier and less liable to such complications as shock, or accidental wounding of the bladder or ureters. The high operation he regards as indicated only

when the uterus is too large to be removed through the posterior or anterior peritoneal cul-de-sac, or when there exist adhesions of the womb and degeneration of lymphatic glands (*Mediz. Obozr.*, October, 1881, p. 516). The author gives the reasons which led him to perform total extirpation of the womb, though the cervix alone was affected. The researches of Drs. Ruge and Veit have shown that in cases of cervical cancer the epithelium of the body of the uterus also degenerates very early. Microscopic examination of the mucous membrane of the body of the organ in the author's case fully confirmed the statement of Ruge and Veit. Dr. Solovioff belongs to the most ardent advocates of Freund's operation, and even holds that total extirpation of the uterus is the only rational procedure in the treatment of the uterine cancer. [This is the sixth case of Freund's operation performed in Russia. Dr. Levenstein, of Moscow, operated twice, with two deaths (*London Medical Record*, December, 1880, p. 496); Dr. Solovioff three times, with one death; and Dr. N. J. Bogoluboff, of Kazan, once; the patient recovered (*Vratch*, 1881, Nos. 48 and 49). Probably the brilliant results lately published by Dr. Bardenhever, of Stuttgart (*Die Drainirung der Peritoneal Höhle*, Stuttgart, 1881), who operated twelve times, with eleven recoveries, will encourage Russian surgeons to perform Freund's operation more often than they have hitherto done.—*Rep.*]

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM AUGUST 6 TO AUGUST 19, 1882.

PROMOTIONS.

COLONEL CHARLES H. CRANE, Assistant Surgeon-General, promoted Surgeon-General, with the rank of brigadier-general, to date from July 3, 1882, *vice* Barnes, retired.

LIEUTENANT-COLONEL CHARLES C. KEENEY, surgeon, to be surgeon, with the rank of colonel, June 30, 1882, *vice* Cuyler, retired.

LIEUTENANT-COLONEL JOHN F. HEAD, surgeon, to be surgeon, with the rank of colonel, June 30, 1882, *vice* King, retired.

MAJOR JOSEPH B. BROWN, surgeon, to be surgeon, with the rank of lieutenant-colonel, June 30, 1882, *vice* Simons, retired.

MAJOR DAVID L. MAGRUDER, surgeon, to be surgeon, with the rank of lieutenant-colonel, June 30, 1882, *vice* Keeney, promoted.

MAJOR CHARLES PAGE, surgeon, to be surgeon, with the rank of lieutenant-colonel, June 30, 1882, *vice* Head, promoted.

CAPTAIN JOHN BROOKE, assistant-surgeon, to be surgeon, with the rank of major, March 2, 1882, *vice* Frantz, deceased.

CAPTAIN WM. H. GARDNER, assistant-surgeon, to be surgeon, with the rank of major, June 23, 1882, *vice* Notson, deceased.

CAPTAIN CHARLES SMART, assistant-surgeon, to be surgeon, with the rank of major, June 30, 1882, *vice* Brown, promoted.

CAPTAIN WM. S. TREMAINE, assistant-surgeon, to be surgeon, with the rank of major, June 30, 1882, *vice* Magruder, promoted.

CAPTAIN MORSE K. TAYLOR, assistant-surgeon, to be surgeon, with the rank of major, June 30, 1882, *vice* Page, promoted.

HARTSUFF, ALBERT, MAJOR AND SURGEON.—Having reported at these headquarters on 3d instant, surrendering unexpired portion of his leave of absence, will proceed to Fort Union, New Mexico, and report to the commanding officer for duty. S. O. 153, Department of the Missouri, August 4, 1882.

BILLINGS, JOHN S., MAJOR AND SURGEON.—By direction of the President, relieved from duty as a member of the National Board of Health. S. O. 190, A. G. O., August 17, 1882.

BROWN, J. M., MAJOR AND SURGEON.—Assigned as attending surgeon at headquarters, Department of the South, in addition to his duties as post-surgeon at Newport Barracks, Ky. S. O. 79, Department of the South, August 10, 1882.

HUBBARD, V. B., MAJOR AND SURGEON.—Now awaiting orders, to report in person to the Commanding General, Department of the Missouri, for assignment to duty. S. O. 186, A. G. O., August 11, 1882.

SMART, CHARLES, MAJOR AND SURGEON.—By direction of the President, detailed as a member of the National Board of Health, organized under act approved March 3, 1879, *vice* Major Billings (surgeon), relieved. S. O. 190, c. s., A. G. O.

BYRNE, CHAS. B., CAPTAIN AND ASSISTANT-SURGEON.—The leave of absence granted him in S. O. 68, July 12, 1882, Department of the South, is extended two months. S. O. 189, A. G. O., August 16, 1882.

SEMIG, B. G., CAPTAIN AND ASSISTANT-SURGEON.—To be relieved from duty in Department of the Platte, and, on expiration of his leave of absence on surgeon's certificate of disability, granted him in S. O. 121, c. s., A. G. O., to report by letter to the Surgeon-General. S. O. 186, c. s., A. G. O.

WILCOX, T. E., CAPTAIN AND ASSISTANT-SURGEON.—To accompany Troop "F," First Cavalry, to Fort Walla-Walla, and then repair to these headquarters for assignment to duty at Vancouver Barracks. S. O. 106, Department of the Columbia, July 31, 1882.

TAYLOR, M. E., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty at Jefferson Barracks, Mo., and to report by letter to the Surgeon-General. S. O. 185, A. G. O., August 10, 1882. Granted leave of absence for four months. S. O. 188, c. s., A. G. O.

POWELL, J. L., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Confirms telegraphic instructions of this date to allow the Lieutenant-Colonel Tenth Cavalry, and Troops "G" and "L" of that regiment, and Assistant-Surgeon Powell, to continue temporarily, and until further orders, at Fort Stockton, Texas. S. O. 84, Department of Texas, August 9, 1882.

MCCREERY, G., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Transferred from Fort Apache to Whipple Barracks, A.T. S. O. 119, c. s., Department of Arizona.

EBERT, R., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty at Fort Walla-Walla, W.T., to accompany Troop "E," First Cavalry, to Boise Barracks, and, on arrival there, relieve Assistant-Surgeon Wilcox from duty at that post. S. O. 106, c. s., Department of the Columbia.

RAYMOND, H. J., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Transferred from Whipple Barracks to Fort Apache, A.T. S. O. 119, Department of Arizona, August 3, 1882.

EGAN, P. R., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty at David's Island, N.Y., and to report in person to the Commanding General, Department of Arizona, for assignment to duty. S. O. 185, c. s., A. G. O.

WAKEMAN, WM. J., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty at Columbus Barracks, Ohio, and to report in person to the Commanding General, Department of the Platte, for assignment to duty. S. O. 185, c. s., A. G. O.

MACAULEY, C. N. B., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Appointed Assistant-Surgeon, to date from August 10, 1882.

CHERBONNIER, A. V., CAPTAIN AND MEDICAL STOREKEEPER.—Upon expiration of his present sick leave of absence, to report in person to Lieutenant-Colonel E. Swift, Assistant Medical Purveyor, New York City, for duty in the medical purveying department in that city. S. O. 188, A. G. O., August 14, 1882.